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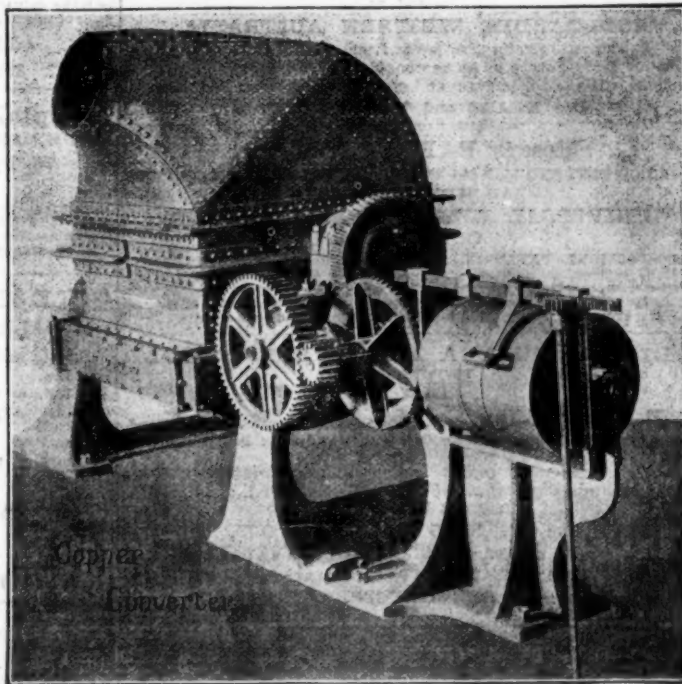
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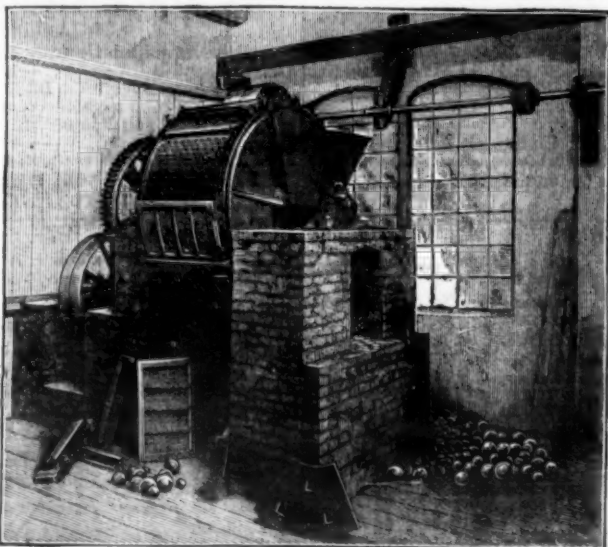
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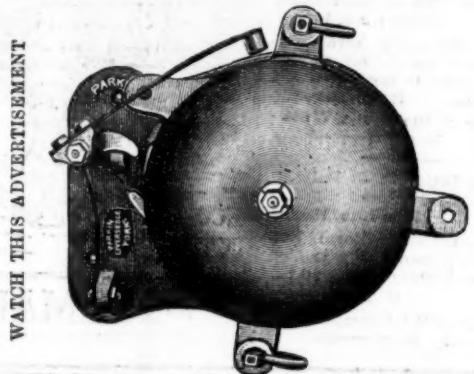
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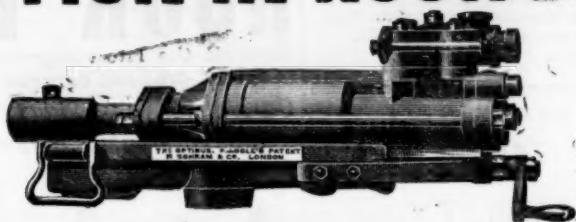
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'OPTIMUS' COMPOUND ROCK DRILL.

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Consumes 40 per cent. less Compressed Air than any other Drill at the same time giving the most effectual results.

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Fitted with SCHRAM'S Inlet and Outlet Valves giving the greatest efficiency.

"SCHRAM'S" IMPROVED ROCK DRILLS,

SUPPLIED TO THE INDIAN, COLONIAL, AND OTHER GOVERNMENTS.

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Hand-Power Diamond Prospecting Drills.

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From His Grace the Duke of Rutland.
Belvoir, Grantham,
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Sirs,—Elliman's Royal Em-
brocation is used in my stables;
I think it very useful.

RUTLAND.
Master of the Belvoir
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From the Earl of Harrington
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can obtain. HARRINGTON.
Master of the South Wilts
Hounds.

From Major M. J. Balfe,
South Park.
June 16th, 1892.

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and I can highly recommend it.
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Master of the Roscommon
County Stag-hounds.

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GOOD
THING."

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IN THE STABLE.

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SLOUGH, ENGLAND.

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ningham, Prestonkirk, N.B.
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in any stable, but especially in
the stable of a Master of Hounds.
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Master of the Berwickshire
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From R. Burdon Sanderson,
Esq., Warren House, Belford
July 10th, 1892.

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brocation is used in my stables,
and I consider it very useful.

R. BURDON SANDERSON.
Master of Percy Foxhounds.

From Wm. J. Buckley, Esq.,
Penyfael, Llanelly.
July 16th, 1892.

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Embrocation. I always keep a
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Having REFRACTORY GOLD ORES hitherto untreatable at a profit, the MACARTHUR-FORREST (PATENT) PROCESS OF GOLD EXTRACTION offers a solution of the difficulty.

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The Cassel Gold Extracting Co. (Ltd.)

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London Office—23, College Hill, Cannon Street, E.C.

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Australia—The Australian Gold Recovery Co. (Ltd.), 8, Post Office Chambers, Sydney, N.S.W., Charters Towers, Queensland, and Mr. Geo. S. Fowler, J.P., Adelaide.

United States—The Gold and Silver Extraction Co. of America (Ltd.), Denver, Colo.

Mexico—The Mexican Gold and Silver Recovery Co. (Ltd.), 2a, Calle de Providencia, No. 7, Mexico City, Mexico.

Chili—Mr. Wm. Jones, Calle Almendro, Valparaiso.

New Zealand—The Cassel Gold Extracting Co. (Ltd.), 6, Herald Buildings, Queen Street, Auckland.

Canada—Mr. W. Fellow Harvey, F.C.S., 717 and 719, Pender Street, Vancouver City, British Columbia.

The CASSEL GOLD EXTRACTING Co. (Ltd.) are manufacturers of CYANIDE, suitable for the MacArthur-Forrest Process.

For terms, apply at Head Office of the Company,

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The well-known
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for developing Water
Power with any fall
from 3 feet and up-
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Little Giant Turbine.

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RICHARD E. CHISM, M.E., Editor and Proprietor.

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The Principal County Paper in the Midlands.

Advertisers will find it the BEST MEDIUM for reaching superior
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in population and sixth in wealth.

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ONLY GOLD MEDAL FOR ALLOYS,
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Sheet. Specially adapt
for Mining Work.

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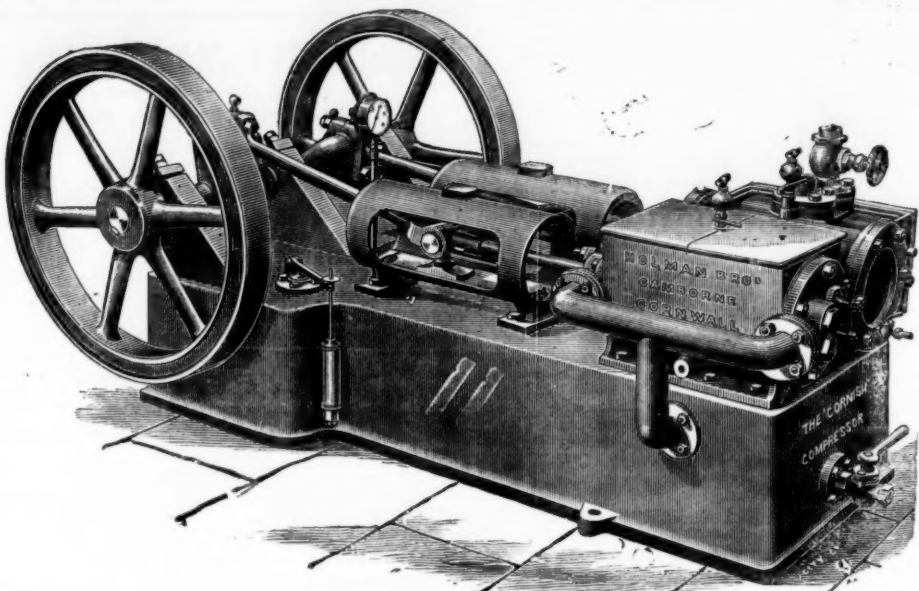
2, Metal Exchange Buildings, Leadenhall Avenue,

LONDON, E.C.

HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839.

Patentees and Sole Makers of
"THE CORNISH" ROCK DRILL and "THE CORNISH" COMPRESSOR.



RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

Estimates for ROCK BORING PLANT and GENERAL MINING MACHINERY
 on Application.

London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

JOHN DAVIS & SON,

ALL SAINTS WORKS, DERBY;

118, NEWGATE STREET, LONDON, E.C.

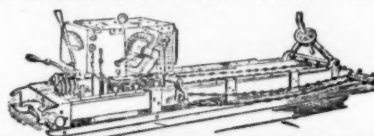
ELECTRIC LIGHT & TRANSMISSION OF POWER PLANTS

Jeffrey Machines for Undercutting Coal,

WORKED EITHER BY ELECTRICITY OR COMPRESSED AIR.

OVER 500 IN USE.

FULL PARTICULARS UPON APPLICATION.

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HIGH OR LOW TENSION SYSTEMS.

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 SEC. A. MATHEMATICAL, MINING INSTRUMENTS, MINERS' LAMPS, &c
 SEC. B. ELECTRICAL PLANTS AND FITTINGS.

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The best Family Newspaper for Cornwall and the West of England generally.

MONDAY AFTERNOON, 4 Pages, One Halfpenny.

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The "WEST BRITON" contains more reliable information
 respecting Cornish Mines than any other Newspaper

HEARD and SONS, Publishers, Truro.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Concentrator (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT $\frac{1}{2}$ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

N.B.—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST OF APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

- 9894 George Payne Grace, 160, The Grove, Camberwell, London.—A reversing rotary engine.—May 20.
- 9112 Joseph Baker and Arthur Green, New Bridge Street, Manchester.—Improvements in or in connection with injectors for supplying feed waters to steam generators.—May 20.
- 9881 Alfred Ernest Old, 66, Stanmore Road, Edgubaston, Birmingham.—The application of the motor generator for purposes of electrolysis.—May 21.
- 10003 James William Parker, 29, Southey Place, Bradford.—Improvements in steam boilers.—May 21.
- 10216 Hermann Walter Leslie, Robert Alexander Carson, and the O.P. Zurn Company, 323, High Holborn, London.—Blow off for steam boilers.—May 21.
- 10,038 George Hulbert, 166, Fleet Street, London.—Improvements in or relating to lifts, and the method of operating the cages thereof.—May 21.
- 10,052 Henry Valentine Miller and Alexander Cicero Miller, 45, Southampton Buildings, Chancery Lane, London.—Improvements in electric railway signals.—May 21.
- 10,059 Joseph Crawhall Chapman, 72, Chancery Lane, London.—Improvements in tubular steam generators.—May 21.
- 10,068 Henry Harris Lake, 45, Southampton Buildings, Chancery Lane, London.—An improved automatic coupling device for railway vehicles.—May 21.
- 10067 Adolf Hebel, 45, Southampton Buildings, Chancery Lane, London.—Improvements in muffle furnaces.—May 21.
- 10082 George Frederick Priestly, and W. Scott Bancroft, Hope Street Mills, Halifax.—Improvements in steam generators and furnaces connected therewith.—May 22.
- 10131 William Frederick Collins, 23, Southampton Buildings, Chancery Lane, London.—Improvements in means or apparatus for breaking down minerals.—May 22.
- 10158 John Tweedy, 45, Southampton Buildings, Chancery Lane, London.—Improvements relating to the balancing of steam and like engines.—May 22.
- 10222 David Davy and Davy Brothers (Limited), 53, Chancery Lane, London.—Improvements in fluid steam boilers.—May 23.

SPECIFICATIONS PUBLISHED.

9371, Bauchal, railway sleepers, 1894; 10,614, Franter and Howl, steam boilers, 1894; 10,573, Mills, steam boilers, 1894; 12,224, Johnson, steam boilers, 1894; 14,001, Tyer, single lines of railways, 1894; 14,314, Braun, steam boilers, 1894; 2760, Koerte and Whitley, drilling machines, 1895.

The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each, including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

Van Ryn North Extended Land and Mining Company (Limited).—Registered by Renshaw and Co., 2, Suffolk Lane, E.C., with a capital of £170,000 in £1 shares. Object: To adopt and carry into effect an agreement expressed to be made between the Van Ryn Gold Mining Estate (Limited) of the one part and this company of the other part for the acquisition of certain property, mining, water, and other rights, grants, leases, claims, concessions in and over an estate known as the Farm Vlakfontein, in the South African Republic, and to carry on every description of exploration, as miners and smelters, metallurgists, &c.

Moonie Creek Development Company (Limited).—Registered by Julius and Thomas, 15, Finsbury Circus, E.C., with a capital of £100,000 in £1 shares. Object: To adopt and carry into effect certain agreements expressed to be made by this company with (1) the Mashonaland Agency (Limited), and with (2) the United Matabele Claims Development Company (Limited) for the acquisition, by purchase or otherwise, of freehold and other farms, properties, mines, mining, water or other rights, grants, leases, claims, concessions, &c., in Africa or elsewhere; to develop and turn to account the same; and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches.

Good Hope Gold Fields (Limited).—Registered 28th May by Hurrell and Mayo, 35, Cornhill, E.C., with a capital of £75,000 in £1 shares. Object: To adopt and carry into effect an agreement made 27th May between A. Smith of the one part, and F. Faulkner (on behalf of this company) of the other part, for the acquisition, by purchase or otherwise, of any lands, farms, hereditaments, &c., in South Africa, and to colonise, cultivate, improve, and generally turn to account the same in such manner as the company shall see fit.

Gold Explorers (Limited).—Registered 29th May by Oldfield and Company, St. Stephen's Chambers, Telegraph-street, E.C., with a capital of £75,000 in 5s. shares. Object:—To adopt and carry into effect an agreement expressed to be made between the Transvaal Prospecting Company (Limited) and P. W. Sellick, the liquidator of the company of the first part, and of this company of the other part, to search for, prospect, examine, and explore mines and ground supposed to contain minerals and precious stones, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches.

Camlan Gold Mining Company (Limited).—Registered by Jenkins, Baker and Co., 134, Fenchurch Street, E.C., with a capital of £5000 in £1 shares. Object: To acquire certain mining rights (particulars of which are not given) in Wales, and to develop and turn to account the same. Registered without Articles of Association.

British West Australian Agency (Limited).—Registered by Goodchild and Hammond, 1, Queen Victoria Street, E.C., with a capital of £41,000 in £1 shares (1000 deferred). Object: To acquire mines, mining rights, grants, leases, claims, concessions, &c., in Australia and elsewhere, and to develop and turn to account the same. The directors are to be elected by the signatories. Qualification, one share. Remuneration to be fixed by the company.

African Search Company (Limited).—Registered by Clave and Clave, Devonshire Chambers, Bishopsgate Street, E.C., with a capital of £10,000 in £1

shares. Object: To acquire any mines, mining and other rights, grants, leases, concessions, &c., and to develop and turn to account the same. The directors are to be elected by the signatories. Qualification £50. Remuneration £100 each per annum. Registered office: Devonshire Chambers, Bishopsgate, E.C.
 Malayan (Pahang) Exploration Company (Limited).—Registered by Slaughter and May, 15, Austin Friars, E.C., with a capital of £40,000 in £1 shares. Object: To adopt and carry into effect an agreement expressed to be made between the Malayan (Pahang) Concession Company (Limited) of the one part, and the present company of the other part; to acquire certain mining and water rights, grants, leases, claims, concessions, mineral properties, &c. (said concessions being granted by the Sultan of Pahang), in Pahang; generally, to carry on the business of a mining, quarrying, smelting, and refining company in all its branches.

Cheerful Fuel Saver Company (Limited).—Registered by Franks and Timbrell, 11, Paneras Lane, E.C., with a capital of £3000 in £1 shares. Object: To enter into an agreement for the acquisition of certain letters patent for the United Kingdom relating to improvements in or connected with a direct combustion smoke consuming furnace, and to develop and turn to account the same. The directors are to be elected by the signatories. Qualification not specified. Remuneration to be fixed by the company.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

* We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Reservoir, June 10 (Hullhead).—For the construction of an open reservoir of about 2½ acres in extent, with filters, for the Holyhead Waterworks Company. Plans and specifications may be seen at the office of the Company, 17, Stanley Street, Holyhead.

Earthwork, July 23 (Cairo).—Tenders will be received at the Secretary of the Egyptian Railway Administration at Cairo up to July 23 at noon for earthwork, masonry, pitching, buildings, and other works for the line from Kafr-Zayat to Chabas. Payments are guaranteed, and will be made by the Commission of the Public Debt, Egypt. Conditions, general and technical, and description of works, may be seen during office hours on application to Lieutenant-Colonel Western, Broadway Chambers, Westminster, S.W.

Houses (Whitburn Colliery).—For building 43 houses, including the construction of streets and drains, at Whitburn Colliery. Plans and specification can be seen on application to the Harton Coal Company (Limited), General Offices Harton Colliery, South Shields.

WHEELER HILL (LIMITED).—The statutory meeting of shareholders was held on May 30, at the company's office, 79, West Regent-street, Glasgow.—Mr. J. Hay Thorburn, of Edinburgh, presided. The Chairman reported that the property had been transferred to the company, and the services of Mr. F. H. Hill, so well known as a mining engineer in California, had been secured as manager of the Wheeler Hill Mine. The machinery would very shortly be erected, and from the character of the ore and the conditions of working, speedy returns are confidently looked for. It has been arranged that one of the directors will shortly visit the property.

COOLGARDIE.

By BRENTON SYMONS, M.I.C.E.

IN the early days of 1892 the site of the now flourishing town of Coolgardie was a sandy plain at the entrance of the low valley leading up across Flyspeck Flat to Bayley's group of mines. The fortunate discovery of the bonanza at Bayley's Reward claim had the immediate effect of drawing a large crowd of prospectors to the field, and the ground in the vicinity was vigorously searched for alluvial gold. During the whole of that year, when it was extremely difficult to obtain a sufficiency of food and water, the hills and flats for miles around were ransacked, and more or less gold was struck almost everywhere. But the only place in which alluvial gold worth working existed was on a large plain stretching from Coolgardie along the valley to Bayley's; here a considerable number of men employed themselves in digging up the sand and gravel preparatory to sifting and dry-blowing. These efforts were attended with much success, the diggers realising large sums, notwithstanding that the charges for supplies would have been prohibitive, but for the absolute necessity of purchasing the means of existence. Many thousands of ounces of gold were extracted from the valley debris, which, together with the precious metal, had been during previous centuries slowly washed down from the country immediately surrounding Bayley's. The decomposition of the gold veins underlying the flat subscribed some of the golden contents of the debris. There are two auriferous felsite dykes also crossing the flat, which added their quota. There are still numerous fossickers who are again dry blowing the gravel, but with very meagre results.

After the Flyspeck Flat rush cooled off, prospectors turned their attention to the districts surrounding, eastward to Hampton Plains, and northwards to La Page lake, Hannan's 45 miles, &c., so that in 1893 not less than 3000 prospectors were knocking the quartz exposures which were seen all over the field, and this number early in 1894 was increased to over 4000. The town of Coolgardie has, during the past two years, increased in population several-fold, until it has grown to a large mining town with a municipal government, and provided with telegraphic communications and many of the luxuries of civilisation. In addition, many important mining centres, such as Hannan's and White Feather, are springing up in the surrounding districts. The gold fields have now been prospected 150 miles eastward to the Mesozoic limestone, southwards to Dundas; and northwards the prospectors have joined hands with those from Cue in the Murchison district. The whole of this vast extent of territory has been thus proved to be more or less auriferous, though, of course, the search has necessarily been only very superficial, and leaves ample space and opportunity for future discoveries. Sufficient has, however, been done to convince the most sceptical that a broad auriferous belt of hornblende rocks trends in a N.N.W. direction from south of Dundas to north of Cue, or, in other words, from the Australian Bight to the Gascoyne district, near the Indian Ocean.

In March, 1895, the records at the Warden's office at Coolgardie showed that 3500 claims had been registered in that district—a district possessing an area not very greatly inferior to that of Great Britain. Under the labour conditions imposed by the West Australian Government, this number should employ a mining population of not much less than 10,000. It is true that most of the claims have been taken up and worked on purely speculative lines, and that a relaxation of the present boom would cause the relinquishment of a considerable number, notwithstanding that many of them possess good lodes. It is not easy to attain a correct estimate of the vast floating population in and around Coolgardie, but probably it would not be placed too high at 30,000. The most populous centres of mining just now are Coolgardie, then Kalgoorlie and White Feather; but Kurnalpi, Londonderry, Dundas, and Ninety Mile are becoming increasingly important. The usual results follow the establishment of these villages; the trees around are felled, and unsightly slopes sprinkled with ragged and blackened stumps have replaced the eucalyptus forest. The growth of Coolgardie has been surprisingly rapid, and if the mines produce the amount of gold which the numerous exposures of quartz reefs predict, it may yet rival even Johannesburg, leaving aside the numerous veins which must exist in those parts of the gold fields which have been scarcely scratched, or been passed over. Even in the immediate vicinity of Coolgardie there remain, without doubt, many undiscovered lodes.

It is somewhat singular that the lode first discovered in Coolgardie should have proved the most lasting in depth and the most productive in gold; it is true that none of the other mines have reached a depth of 400 feet, but the rich shoots have cut out at a very shallow depth, leaving the proprietors in each case to search for another shoot of ore. Bayley's Reward claim, only 1 mile east of Coolgardie, has made good returns of gold from the very commencement when reduction was done by dollying up to the present battery workings, though the quartz was found as depth was gained to gradually decrease in gold value. Although capitalised at an absurdly high figure fair dividends were paid until recently, when the comparatively low grade of quartz, accentuated by the high cost of obtaining battery water, which latter equalled an expenditure of 25 per cent. for every ton of quartz crushed, rendered the continuance of high dividends impossible. Bayley's being a reward claim, the alluvial gold deposit appertains to the shareholders, and it has been, and still is, worked with good results. At the head of Hogan's, a gully much worked by dry-blowers, a nugget weighing 104 ounces was picked up by a passer-by as late as the end of January. They have a good 20 stamp battery, and are now engaged in fixing a 28 horse-power oil engine, so that the cost of carting water may be reduced; indeed, the manager is making great efforts to minimise expenses, so as to meet the adverse circumstances which have arisen. The lode is a good one, varying in width up to 7 feet, but much disturbed by faults, and although the bonanza is exhausted, there still remains a large body of battery rock, that with a reduction of water charges and careful management should be profitably treated. On the faith of the Bayley's Reward a number of mines have sprung up in its vicinity of more or less importance.

Bayley's No. 1 South is one of these, and a good 10 head stamping mill has been erected, though scarcity of water prevents continuous working. In the latter part of January 146 tons of quartz were milled for 300 ounces of gold, an average of over 2 ounces per ton; the second crushing of 198 tons gave only 255 ounces. The lode from which this quartz has been raised is known as Gorrie's reef, and is not supposed to be a direct continuance of Bayley's Reward lode, but to be a parallel vein a little to the west. The main shaft is nearly 200 feet deep; the principal workings are at the 90 feet level, from whence the quartz is stopped. The lode varies from 2 to 13 feet wide, and shows a quantity of good battery stone, besides occasionally a rich streak of gold quartz along the 150 feet that have been driven at the 90 feet level. The Gorrie shaft yields about 1500 gallons of water per diem, which is rather in excess of that obtained from Bayley's. Both these shafts are to be deepened, and sanguine

expectations are entertained that sufficient water will ultimately be obtained to run the batteries without carting water from the Coolgardie wells. The Gorrie shaft is a three-compartment one, is well timbered, the poppet heads being extremely well built, and arranged so as to tram direct to the stamping mill. The engine shaft is provided with adequate winding gear, and the final arrangements to mine and crush quartz regularly have been completed, and nothing but the scarcity and dearthness of the water requisite for battery purposes stands in the way of the successful working of the mine. At Bayley's No. 2 South three shafts are being sunk on lodes 2 to 6 feet wide, the quartz proceeding from which appears good. Shafts Nos. 2 and 3 are about 120 feet in depth.

About 1½ mile eastward from Bayley's is the Lady Louisa claim, on which some alluvial gold was found.

The Golden Bar group is about 3 miles easterly from Coolgardie. The Golden Bar lode is a very large one, and continues in length and depth to hold its size as far as prospected. The crushing is done dry by a ball mill, and the gold will be extracted by a cyanide plant as at present proposed.

Southward from Coolgardie are several groups of mines, but most of them are little developed. At the Big Blow claim Mr. Harrington is devoting his energies to the completion of the 20 stamp mill, and believes there will be plenty of water in the shaft to run them. The mine is but a short distance from Coolgardie. The Lady Jeannie close by deserves notice on account of the supposed discovery of silver, and also for its auriferous felsite dyke. Three lodes run through the property, but not much development has been done.

Tindal's claim lies also in this direction, and is only a couple of miles distant from Coolgardie. The lode is wide, and presents such a mass of quartz that many thousands of tons might be won cheaply by open-cut. There is a 10 head battery ready for starting up as soon as the 20 horse-power oil engine is in place. Three shafts have been sunk on the lode—the deepest 200 feet. At 70 feet from base of No. 3 shaft the vein has been crosscutted, and is found to possess a total width of nearly 40 feet, which is not all quartz, being made up of thin bands of quartz, intercalated amid seams of ironstone and decomposed hornblende.

The Star of the South is close to Tindal's. There are three shafts sunk on the lode, the deepest having a depth of about 57 yards. At 13 yards the reef discloses a thickness of about 7 feet, which, at 25 yards, increases to 9 feet. There is a good amount of water coming from the 134 crosscut, where the vein is made up of several leaders. A large dyke, said to carry gold, crosses the property, and some alluvial gold has been obtained from the outcroppings. The gold does not appear to be associated with the dyke matter itself, but is concentrated in the small irregular gash veins which traverse it with more or less frequency. Most of the mines to the southward of Coolgardie are in a long-folded basin of metamorphic thin-bedded hornblende schist, which lies in nearly vertical beds parallel to the broad belt of granite spreading out between Southern Cross and Coolgardie.

The Londonderry Mine is somewhat further southwards than the mines above noticed. Although the abnormally rich hole of gold (on the faith of whose continuance this mine was floated) cut out within a few inches, yet the shafts sunk on the reef for a depth of 160 feet show a strong lode 5 or 6 feet in width, which will yield a large amount of good battery rock. The vein is a double one, being separated by a bed of the granitic country rock, the hanging vein carrying the richest ore. There are scores of men at work both underground and at surface, where trenches and other works are being energetically pushed forward. Occasional rich bunches of gold quartz will undoubtedly be met with as the workings underground are extended, but quite as certainly the Londonderry, as well as the other show reefs of the gold field, will find their future to depend upon the average grade of the battery rock, and upon judicious and economical management. The crushing machinery is to arrive from Melbourne, and the result of the first few crushings will be looked for with anxious interest.

The Kurnalpi group of mines lies 50 miles north-east of Coolgardie. The reef at the Pride of the East is about 3 feet wide, and a considerable number of ounces of gold were dollied from the backs of the lodes. Three shafts are being sunk to develop the lode.

The Leviathan claim has a vein with a bold outcrop, varying in width from 3 to 9 feet. Three shafts, one over 100 feet deep, have opened up a vein showing both coarse and fine gold.

The White Feather district is becoming quite an important mining centre, and is a very lively, bustling camp. The Warden now (or until lately) resident at Hannan's, is to be located here, much to the disgust of the district around the former place. There are quite a number of men—here called cement workers—engaged in working a hard conglomerate, which they pretend is alluvial. It is, however, really composed of debris proceeding from the weathering of the back of the lode, and its encasing walls; the oxidation of the pyrites of the lode, together with the decomposition of the walls which supplies some lime carbonate, forming a hard-cemented breccia along the course of the lode, which, crushed and dry-blown, affords gold sufficient for the subsistence of the miners engaged on it. It is somewhat hard on the owners of claims to have their property invaded in this manner, and proves how inadequate for their purpose are the mining laws. The town site is on a slight elevation, and trees with scrub hedge it in. There are several substantial buildings, and three hotels which provide fairly good accommodation. In the immediate surroundings mining operations are active, more particularly on cement workings, which give profitable employment to, perhaps, 300 men.

The Nil Desperandum has numerous small quartz veins, varying from 3 to 18 inches, but though small, some of them show a great quantity of coarse gold. The deepest shaft is 110 feet, and the width of the lode at this depth has increased to 2 feet. There are several very promising claims on this field, but up to the present the works of development have not been very great, but as many English companies have acquired claims, quick progress may be awaited.

Some 20 miles east of White Feather a big quartz blow, now known as Haye's reef, has been discovered. It is large enough to be distinguishable for a great distance, and the country has been pegged out for miles around. Hit or Miss had a splendid show of rich quartz. Several other very good veins, though not very large, have been opened a little by shafts, &c.

The Broad Arrow, 16 miles from Haye's, is a small township with three or four lines of reefs. At MacDonald's is a small three-stamp battery worked by horses, which has given some good crushing. From this place to Black Flag is 12 miles. In the Bardoch district mining is tolerably brisk and many reefs are being opened; some dry-blowers are also fossicking around. The Excelsior lode, which has a slate casing, has been pegged out for miles. The reef runs up to 6 feet thick, and many shafts have been sunk at the different claims, though they seldom reach any depth. The Bank of England Mine has been floated with a capital of £150,000.

After Coolgardie, Kalgoorlie, or Hannan's Find is, perhaps, of the greatest importance, and a considerable mining and mercantile population is busily engaged in working the reefs and prospecting the surrounding district. Some of the lodes in this

place, and at Black Flag, produce argentiferous galena, by the alteration of which some argentic chloride and native silver has been produced. There is also some cement worked at Kalgoorlie by Richardson's dry-blowers.

The Britannia, or Croesus, as now renamed, has a large lode, one part of which encloses a shoot of gold. Good gold quartz has been raised at the Maritana, a considerable quantity of which has been crushed at the mill of the Leviathan Crushing Company.

The Ivanhoe Mines comprise claims aggregating 75 acres. The lode is not large, and is rarely 4 feet wide. A 10 head battery, with Berdan pans, has been erected, and is successfully driven by an oil engine, thus saving several hundred gallons of water daily. A good supply of water has been struck 165 feet deep, which is said to be sufficient to meet all requirements. At Hannan's Hill claim an engine has been fixed to push the main shaft to a depth of 400 feet for water. There are several reefs on the property, in which rich quartz has been found in patches, and a considerable development of them has been made. The Lady Lily is reported to have good battery rock, and a dry crushing plant equal to the reduction of 10 tons daily is in successful operation. This machinery is put in motion by a Hornsby oil engine.

The Lake View Mine has made some very rich crushings, which averaged from Christmas to March over 5 ounces to the ton. The clean-up of April 17th gave 599 ounces from 170 tons of quartz. It is difficult to keep the battery going for want of sufficient water, but when the pumping plant at Hannan's Lake is completed, it is believed there will be water enough to supply all the mines of the Great Boulder group. The Great Boulder battery started up on April 10th, and after three days' crushing 331 ounces were obtained from 33 tons of quartz, though it is not pretended that this average can be kept up.

(To be continued.)

SOUTH AUSTRALIAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

ADELAIDE, APRIL 23.

MINING here is in much the same state that it has been in for some time past, but much more activity would be shown if a reasonable amount of capital were available for working some of our mines, which have been developed up to a certain point, and which would certainly prove payable with an expenditure of only a few more hundreds of pounds. Our Inspector of Mines, Mr. J. V. Parkes, F.G.S., has just reported on the Black Snake Mine, which was worked for some time until little more than a year ago, when, after what should have been a payable crushing—a net return of over 12 dwts. of gold to the ton of veinstone, from a reef averaging 4 feet wide—work was stopped, and has not yet been resumed. An attempt was made to raise £5000 to place a good plant of machinery on the mine, but the shareholders and public did not respond. Now a reef or lode averaging 4 feet wide, and averaging 12 dwts. of gold per ton, and proved, as it is in this case, to a depth of 100 feet and to a length of about 500 yards ought to be very payable. The country is very favourable for working, and timber and water are abundant; the distance from the city is only about 28 miles by an excellent road. The reef at the 100 feet level averages fully 4 dwts. of gold per ton more than at the higher levels, or 16 dwts. to the ton. It seems scarcely credible that so promising and well-proved a property should be allowed to lie idle, but so many persons prefer risking their money in doubtful mines a thousand miles away, to working those they can see any day.

There are more mines as good as the Black Snake, which, as a correspondent expressed it, are languishing for want of capital. Mr. T. E. Elder, of No. 7, St. Helen's-place, Bishopsgate-street, left here for London a month ago, after acquiring an interest in some of our mines. He spent some time in West Australia, where also he secured some genuine mining properties, as he also did in Victoria. Persons desirous of reliable information should call on him.

Our Government Geologist, Mr. H. Y. Lyell Brown, F.G.S., is on his way down from Port Darwin, and has arrived at Alice Springs, 985 miles north of Adelaide. Having been out for about 10 months, he has leave to come home for a spell before completing his inspection of that part of the country. In the meantime he has forwarded to the Government an important report of the country in the neighbourhood of Tennant's Creek, 1303 miles north of Adelaide, and down to Barrow's Creek, 147 miles south of Tennant's. He considers the indications as very favourable for the occurrence of gold and other metals in the country lying to the east and west of those stations. The prevailing rocks are sandstones, slates, and granite, with felsite rocks and diorite, traversed by numerous reefs of quartz, many of which are very large, also lodes of hematite and other iron ores. He also mentions other localities as being favourable for gold, and recommends the systematic exploration of those parts for auriferous deposits. A report has come down—but wants confirmation—that gold has been discovered on the Fitzmaurice river, and that the discoverers were getting an ounce per day per man.

THE USEFUL DONKEY.—"It seems," says the *Scientific American*, "that Mr. Sheppard has a very rich mine in an almost inaccessible part of the Mexican mountain ranges, a long way from any railroad, which he has been equipping at great cost with first-class mechanical appliances." Some time ago Mr. Sheppard concluded that his equipment required 5000 or 6000 feet of wire rope for carrier purposes, but how to get it up into his mountain fastness in a single piece, as required was a question. By no possibility could it be moved from the railroad to final destination on wheels, and he did not see how it could be carried by burros. But a Mexican did it. He explained his plan, got the contract for carrying the 1½ inch cable, and successfully executed it. Here is the way he did it:—He coiled the rope up at a fixed distance along its entire length, each coil being of approximately the same size, and designed to weigh 300 lbs., and the loaded it on a string of burros with proper fastenings. To take up slack between each two burros, two Mexicans with padded shoulders were inserted and faithfully kept up their end, or rather portion, of the line. The procession was a curious one, to be sure, but it got there just the same.

GOLCONDA GOLD MINES.—An extraordinary meeting of the Golconda Gold Mines Company was held on Wednesday, at Winchester House, Mr. F. A. Thompson presiding.—In announcing the confirmation of resolutions authorising the increase of the capital to £100,000 by the creation of 25,000 shares of £1 each, and also making alterations respecting the rights of holders to share warrants, the Chairman said they had had a cablegram, dated 29th May, from their manager at the mine, informing them that the battering ram was running most satisfactorily, and that the dam was holding up very well. The manager further informed them that the main shaft had been sunk to a depth of 120 feet. A later cable, dated 4th June, stated that the mill was still running satisfactorily. The directors considered the state of affairs at the mine perfectly favourable.—The resolutions, having been duly seconded, were agreed to unanimously, and the proceedings terminated.

SIDE LIGHTS ON THE LAW:

Legal Jottings on Cases in the Courts, and on Questions affecting Mining, Railway, Financial, Industrial, and allied Interests.

BY A BARRISTER.

LAST week I called attention to the decision of the Court of Appeal upholding Mr. Justice Vaughan Williams' judgment in Mr. Salomon's "one man company case," and lest lessons learnt should be too soon forgotten, other persons would seem anxious to impress on the public the commercial morality to be learnt from a study of the law reports. A Mr. Carey, following closely on the heels of Mr. Salomon, has afforded food for reflection for such as are inclined to turn their business into a Limited company, and at the same time matter of some importance to that class known as creditors, who are not always the persons chiefly considered by the gentleman about to avail himself of the privileges of the Limited Liability system.

MR. CAREY once carried on the business of a cycle repository, and in August last year formed a little company to purchase his business and stock-in-trade. He entered into an agreement with a trustee for the company for the sale in consideration of £1500 in shares of the company, and the balance of the purchase-money—viz., £1500—in cash or bills, at the option of the company. Among the seven signatories to the Memorandum of Association we find the vendor—Carey himself—his three sisters, and a son. Carey was appointed manager of the company for three years. However, he enjoyed the position but a short time before embarrasments overtook him, for within four months a receiving order was made against him, and he was subsequently adjudicated a bankrupt. A resolution to wind-up the company was passed, and a liquidator appointed, who sold the assets of the company for £370. The trustee in the bankruptcy, however, claimed the assets of the company as part of the general assets of the bankrupt. The learned Judge, on an application to set aside the transfer to the company, came to the conclusion that the sale of the company was made by Carey because he was in embarrassed circumstances, and as he continued to have control of the business, notwithstanding that in form there had been a sale to a company which was legally constituted, yet it was not true to say there was a sale because there was not really a buyer and a seller, because the vendor was not only principal, but the company was his agent, and there was, therefore, wanting that antagonism of interest which is a necessary element of every sale and purchase. Therefore, the assets of the company were assets of the bankrupt.

The difficulty then arose as to the creditors of the company, who were in no way privy to the transaction, and were entitled to deal with, and had dealt with a valid legal entity—the company. As to them the learned Judge said, between the trader and the company the sale was invalid; although as regards the creditors, it must have the effect as if it was valid, so far as their interests were concerned. The result of this would be that the creditors of the company would not be bound to come in and share equally in the general assets of the bankrupt, who had allowed the company to trade as if it was a separate individual. The trustee, therefore, would stand in his shoes, and consequently would not be allowed to deny that state of facts since the bankrupt would himself be estopped from denying it. The trustee would take the assets of the company subject first indemnifying the creditors out of them; or the creditors might, if they chose, prove as ordinary creditors on the general assets.

The Stamp Act of 1891 imposes an *ad valorem* duty on certain marketable securities of 1s. for every £10, whereas on a promissory note the duty is only 1s. for every £100. A "marketable security" is defined to mean a security of such a description as to be capable of being sold in any stock market in the United Kingdom. The Commissioners of Inland Revenue refused to stamp a promissory note, and claimed to stamp as a marketable security a document in the following terms:—"Two thousand pounds sterling, No. 101, Baltimore, Md., October 18, 1893; for value received. We promise to pay 12 months after date to the order of ourselves two thousand pounds sterling (£2000), payable with interest at the rate of five per cent. (5 per cent. per annum) at the office of Messrs. Brown, Shipley, and Company, London, England. This note is a series of notes amounting to £450,000 sterling, which is secured by the deposit of First Mortgage Gold Bonds (principal and interest of which are guaranteed by the Baltimore and Ohio Railroad Company), which bonds, or a sufficient amount of the proceeds of them, if sold before the maturity hereof, are to be held in trust under an agreement, dated October 7, 1893, made between said railway company and Brown, Shipley, and Company for the benefit of the holders hereof. The Baltimore and Ohio Railroad Company, by Charles F. Mayor, President." A certificate in red ink was printed across the face:—"We hereby certify that this note is one of a series therein mentioned, and is secured by the deposit of the securities described in the agreement therein referred to.—Brown, Shipley, and Co." And on the back, "The Baltimore and Ohio Railroad Company. By Chas. F. Mayor, President." The instruments are dealt in on the London Stock Exchange. The Court (Mr. Justice Grantham and Mr. Justice Charles) held that the document was a promissory note. It gave actual rights to the holder and no more. The latter part of the document created no contractual relation in the nature of a security for the benefit of the holders, as was contended, but was only a notice to the holders that Messrs. Brown, Shipley, and Co. held documents of value, and constituted no fresh or further promise.

The Stannaries Bill, which has been introduced in the House of Lords, and read a second time and printed, proposes that the Court of the Vice-Warden of the Stannaries shall cease to exist from the 1st January next, except for the purpose of continuing and concluding proceedings pending in that Court at that date. Henceforward all jurisdiction powers and officers of the old Stannaries Court is to be transferred to and vested in such County Court as the Lord Chancellor shall by order direct, and in future the practice of the Court it is proposed shall be in accordance with the ordinary regulations and rules of County Courts. The Lord Chancellor will make provision for the custody of records which at date of the transfer are in the custody of the old Court.

BURMAN GOLD FIELDS.—Reports from the Wantho gold fields state that Mr. Wright is busily engaged in crushing, and that the out-turn exceeds anticipations. The first consignment of gold will soon be dispatched to England.—*The Indian and Eastern Engineer.*

GOLD DIGGING AT KILDONAN.—The first month's work at Kildonan gold digging closed on Saturday. Three diggers are still at work. One of them is making ordinary labourer's wages, another is said to be doing well, but he has not lodged any gold with the receiver, and the third is still excavating, but has not washed any yet. The Duke of Sutherland visited Kildonan during the week, accompanied by Sir Courtenay Boyle, Dr. Jones, Galspie, and others.

MEETINGS OF MINING COMPANIES.

EAST POOL.

A small profit.—The Wheal Agar water question.

A THREE-MONTHLY MEETING of the adventurers was held on the mine on Monday, Mr. BRANWELL, J.P., presided.

The accounts showed: Labour cost, £5337; merchants' bills, £2703; Wheal Agar, contribution to water charges, £50; stannary assessment, £8; dues, one-fourth, £33; total, £8131. Tin sold amounted to 198 tons, at an average price of £34 10s. 3d.—£6846; copper, £126; arsenic, £1177; discounts, £58; dues on account, £2; income-tax recovered, £54; carriage, £20; sundries, £2; total credit, £8287 18s. 5d. The balance profit on the quarter was £156 6s. 5d. (Hear, hear.)

The CHAIRMAN said: Gentlemen—You have heard the statement read by the purser, and by the cheers with which you have greeted the statement I presume you are contented with it. Of course the pleasantest feature in the statement is the better price for tin that we have had. (Hear, hear.) But the betterment we have had gives us an appetite for more, and it shows how much we are dependent upon the price of tin. The tinstuff sent to the stamps for the last quarter was 7789 tons; in the present quarter under consideration 7197 tons, being less by 592 tons. That is accounted for by the enforced holiday for a day or two which made a break in our recent work. The tributing stuff sent to stamps for the previous quarter was 4807 tons, and for the last quarter 3899 tons, or 187 tons less. The total tinstuff sent to the stamps for the previous quarter was 11,876 tons, and for the quarter now under consideration 11,097 tons, or a total of 779 tons less. The average produce for the tin-work stuff for the previous quarter was 37½ lbs. per ton of stuff, and for the present quarter 38 lbs., being a difference of only ½ lb. in the produce. The tribute for both quarters is alike, the average being 40½ lbs. per ton of stuff. The general average for the previous quarter was 38 lbs., and now it is 40 lbs., a difference of 2 lbs. The tin sold in the previous quarter was 202 tons 1 cwt. 2 qrs. 26 lbs., in the present quarter 198 tons 7 cwt. 1 qr. 25 lbs., being less by 3 tons 14 cwt. 1 qr. 1 lb., and the average price last quarter was £30 16s. 8d., while, in the present quarter, it was £30 10s. 3d., being a better price in the present account of £3 13s. 7d. (Applause.) The better price has realised for us £616 10s. 7d. more than on the previous occasion (Hear, hear.) The amount last quarter was £6229 15s. 5d., and this time £6846 4s., showing a difference of £616 10s. 7d., so, gentlemen, you see that, but for the rise in the price of tin, small as it is, instead of being able to tell you to-day that we have realised a profit of £156, we should have been in the position of saying that we had a loss of £460. The amount of arsenic is about the same, and copper ore is a small credit, while the other amounts are about the same. I do not know that I need add anything more except to hope that, during the next quarter, we may still see a little increase in the price of tin. (Hear, hear.) We have an authority in regard to tin matters present with us to-day (Mr. Bain) and, perhaps, as Mr. Strauss is not here, he will enlighten us a little on the matter. For my own part I feel a little perplexed with regard to the aspect of affairs. Our American cousins, from whom we expect so much, are in such a mercurial frame of mind at present, and have been so for the last few months, that I scarcely know what will be the upshot, but I hope we shall arrive at a better state of things. (Hear, hear.) It is not only in regard to tin but in almost every other article of produce. We are getting our ore too much from New York, which for the last few months has been in a very moveable state, and I can only say that I hope we are on the eve of a better state of trade than has been the case for the last three or four years, though I cannot say that I am quite assured yet. I would move that the accounts, as read by the Purser, be received and adopted.

Mr. WICKETT asked what was the credit balance.

The CHAIRMAN: £3378 16s. 1d.

Mr. WOOLCOCK seconded the motion, which was carried.

The CHAIRMAN: Mr. Heard has said that the accounts being passed we may consider the affairs of the adjoining mine, that is not quite what we came here for to-day. But now that the chief business of the mine has passed I think we may go into anything we like. (Hear, hear.) With regard to the interesting figures (as Mr. Heard called them) which have been brought before the meeting, to my mind there is nothing more interesting in those figures than this—that our average produce for the last quarter was 40 lbs. per ton of stuff. (Hear, hear.) Now there is more than one mine, and more than one neighbouring mine, where the produce of stuff raised is considerably higher than 40 lbs. to the ton of stuff, and these mines are not only not making a profit but are making a considerable loss. As my friend Mr. Heard chooses to refer to mines in general I will state the fact in connection with the figures I have produced, and the conclusion deduced is this—that if the shareholders choose to empower their agents to work their mines you have stuff showing 50 lbs., or more than 50 lbs. per ton of stuff, and surely sufficient stuff should be raised to show a better result than a mine which can only show a produce of 40 lbs. to the ton of stuff. The inference is that the mines are not worked as they ought to be. We are now sending 7000 or 8000 tons of stuff to stamps, and it costs us a tremendous lot of money to send it there, but, so far, we have managed to do without a call, and I hope we shall continue to do so. (Hear, hear.)

Captain BISHOP then read the following report:—

AGENTS' REPORT.
Engine shaft. At the 300 fathom level a crosscut is being driven north towards the new north lode. The 285 fathom level west on the north lode is worth £3 a fathom. The winze sinking below this level is down 15 fathoms and the lode worth £10 a fathom. 285 level west poor; nothing to value. 252 west, £2; 240 west, £10; 228 east on Great lode is poor; nothing to value. At the 200 fathom level east on the Great lode a winze is being sunk, which is down 14 fathoms, and worth £20 a fathom.—Stopes on Great and North lodes. One each at the 285 fathom level worth £8 per fathom; £25, £15; 240, £15; 230, £13; 160, £11; 140, tin and copper, £25. Middle lode.—The 240 fathom level west of crosscut is worth £5 per fathom; 238 west of crosscut, £12. The winze in this level is communicated with the 200, 212 west of crosscut £11 a fathom. We are rising in the back of this level, which is up 9 fathoms, and worth £12 a fathom. 200 west is worth £12 per fathom. We are rising in the back of this level with a boring-machine, which is up 16 fathoms and worth £18 a fathom. This rise is going up in entirely new ground. At the 180 level a crosscut is being driven to intersect the last-mentioned lode. Stopes on middle lode. One at the 225 fathom level worth £13 per fathom; two £12, £12; one £20, £1 per fathom.—South lodes. The 150 fathom level east is worth £10 per fathom; 140 east, £9; 70 west, £0.—Stopes on south lode. One each at the 180 fathom level worth £13 per fathom; 160, £10; 150, £13; and two at the 90, £11 per fathom.—Tribute. We have 18 pitches working by 57 men; average tribute, 9s. 2d. in the £.—Captains C. F. Bishop, John Fenshale, S. Curtis, and J. Bishop.

Captain BISHOP added that the 200 fathom level west was about 3½ fathoms to the west of the great lode, and, as they had a good lode there, they were rather surprised that that part of the great lode had dropped off. They were putting up a rise, so that they had a horse of about 8 fathoms. They knew nothing of the lode, except what they had in the rise, but they were hoping in about two weeks to intersect the lode.

Mr. WICKETT: When you made your statement as to the rise at the back of the 200, was it worth £16 per fathom?

Captain BISHOP replied that they called it about £16 or £18 when they started, and I do not think there is much difference except that it is producing a little more arsenic. It is worth that for tin. They had a greater amount of arsenic now which he had spoken of as the strength of the lode. When they had intersected the lode they would only have about 4 fathoms to drive to get over the rise.

Mr. WICKETT: If this continues you will soon open up a quantity of ground which will be quickly available.

Captain BISHOP: Certainly, sir.

The CHAIRMAN: If there is nothing further to ask, perhaps Mr. Heard would tell us about what he referred to just now. (Hear, hear.)

Mr. HEARD said, he was sure the Chairman would not like to set

him a task which he was unable to fulfil. Mr. Branwell knew that he (Mr. Heard) was a beast of burden to some extent—(hear, hear, and laughter)—and when he saw by the accounts of Wheal Agar that they had a debit balance of between £3000 and £4000, and that they, in East Pool, were likely to be burdened with the water in that mine unless some way was framed to get out of the difficulty, they would be very glad indeed to learn what the committee of management of East Pool thought of doing in connection with the water which was there to flow into East Pool from Wheal Agar, unless means were devised to move it out. He had no desire to force the committee's hands, but he should be very glad of any information.

The CHAIRMAN: I am afraid I am not in a position to give the meeting much information in regard to the matter to which Mr. Heard has referred. I have had no intimation officially from Wheal Agar except that one telegram which came to me after the Dolcoath meeting, and that telegram is familiar to most of you. There was an offer, as you know, made by the neighbouring mines to contribute a certain amount of water-charges to Wheal Agar. (Mr. HENRY ROGERS: For three months.) No fixed time. (Applause) The only answer to that was a telegram from Mr. Hattersley to myself declining the offer, and saying that the engine might go to work if the neighbouring mines paid the whole of the pumping charges. Naturally I expected that a letter would have followed the telegram confirming it, and, perhaps, explaining the position of affairs, but no such confirmation ever reached my hands. We had a committee meeting on the subject, and it was considered necessary to await some sort of communication from Mr. Hattersley or somebody else as the executive, but nothing of the kind came. After a while, and before anything further was done, there was an informal meeting at Redruth, which was attended by Mr. Wickett, Mr. Lanyon, and some other parties, and, in consequence of an agreement come to by Mr. Lanyon and Mr. Pearce Jenkin, the engine was set to work. Now, since that time, I have had no official communication at all; but one evening last week two gentlemen connected with Wheal Agar—Mr. Trembath and Mr. Hamilton—called on me, and we had an informal chat about the matter. Mr. Hamilton, who is a gentleman from the North. [A VOICE: No, he is a Cornishman.] I thought he was a gentleman from the North. But, at all events, he had all the shrewdness of a gentleman from the North—(laughter)—and was very desirous of knowing all I had to say. But the result of it was that, though we did not come to much business, it was understood that after the Wheal Agar meeting on the 11th of this month, the executive of the two mines should meet together and talk matters over. (Hear, hear.) I rather gathered that the Wheal Agar gentlemen desired some sort of amalgamation, and I put it to them in this way:—"If you wish amalgamation, what is your basis of amalgamation?" (Hear, hear.) They were not prepared with any basis. It is just possible that, having had this informal conversation, they will confer with the other members of their committee, and that we shall have a pleasant meeting on the subject, I hope in a week or two's time. (Applause.) Of course we are all men of business, and they will not expect that we shall open communication on any other basis than a business basis, and, on the other hand, we do not expect that they will do so either. (Hear, hear.) I do not know whether my words will reach them in regard to the superior produce of some of the mines in the neighbourhood of East Pool, but Wheal Agar was one of the mines to which I referred, and if my remarks have the effect of infusing fresh vigour into that executive, and that the outcome should be a very much brisker working of that mine, I should be delighted. We do not for a moment believe that we in East Pool are able to pump Wheal Agar's water with our appliances. We have sufficient appliances to pump East Pool water, but if Wheal Agar set to be worked they will have to pump their own water, and we shall have to pump our own water. If the outcome should be that Wheal Agar adventurers throw up the sponge and save us the trouble of working the mine, when would come in another, et cetera arguments; but I think we need not further go into the matter at this meeting. I only tell you what has happened, and I hope the outcome of the meeting will be pleasant, and not otherwise. (Hear, hear.)

Mr. HEARD: I believe I am correct in stating that this 90 inch engine at Wheal Agar is now working entirely at the expense of East Pool adventurers.

Mr. HENRY ROGERS: No, certainly not.

The CHAIRMAN: You have heard exactly what I have said. The engine has been put to work in the informal way which I alluded to, and no other arrangement has been arrived at, but I take it that there will be.

Mr. HEARD: What is the expense of keeping this engine working?

The CHAIRMAN said he did not think it was altogether politic to go into that question very minutely without its being accurately laid before them—(hear, hear)—because it might, perhaps, set up a feeling by no means pleasant. He thought they had better leave that part of it in abeyance. (Hear, hear.)

Mr. HEARD had thought the opportunity should be seized, and that there should be a conference between the council of East Pool and Wheal Agar at the earliest possible moment.

Mr. ROGERS said they invited the Wheal Agar people to meet East Pool representatives that day, but they could not do so owing to the holidays. It had been suggested that they had behaved very cruelly in not giving Wheal Agar more money for pumping that water. They had never pumped one drop of East Pool water—never up to this hour—and, therefore, that is an important fact which, if they referred to it again, should be corrected. It was also another fact that East Pool had been contributing for a considerable time towards the Wheal Agar engine £25 a month, and the water which East Pool had assisted them to pump was actually necessary for their dressing apparatus, and, therefore, if there was to be any reflection at all, the only reflection which should be cast on anybody was that East Pool had behaved with the greatest kindness and consideration. (Hear, hear.) It was only fair that those points should be thoroughly understood and ventilated, because some people belonging to the Press had put in little observations which were likely to irritate, but which had no authority in facts.

Mr. D. W. BAIN, as an individual interested in both mines, said he had admired the cautious observations made by Mr. Branwell and his colleagues. He had in view the meeting which was to be held in Wheal Agar next week, and it was very obvious that, in the interest of Wheal Agar, the present temporary arrangements should be carried on, for, whether they sought for a amalgamation or for the formation of a Limited Liability company, it must certainly be to their benefit to be prepared to hand over a dry mine. (Hear, hear.) But the least said is soonest mended, and he thought much good might arise from the meeting of the Wheal Agar adventurers next week.

The CHAIRMAN said Mr. Bain was the authority to whom he referred in his first remarks, and he should be glad if he could say anything about the prospects of the tin trade.

Mr. BAIN said these are holiday times, and one did not care to say very much about business. At any rate he might say that the Straits were sending home 5000 tons per month, and they could not hope for much improvement until the general state of trade exhausted that increased quantity. He thought the general opinion of one man was as good as another, and he believed those present were as well qualified to form their own judgment as he could form his, so that it would be a waste of time for him to say more when he knew that Mr. Rogers and others were anxious to go to the circus at Redruth. (Laughter.)

Mr. N. B. BULLEN proposed a vote of thanks to the Chairman and to the executive of the mine. Mr. Branwell had every fact at his fingers' ends which was necessary for the interests of East Pool. (Applause.)

Mr. JOHN MAYNE seconded, and the motion was carried unanimously.

The BLACK REEF PROPRIETARY COMPANY (LIMITED) has opened an office for the registration and transfer of shares.

THE NEW GOLD HILL COMPANY, LIMITED.

Reconstruction unanimously approved.—The new property.

An extraordinary general meeting of the shareholders in the New Gold Hill Company (Limited) was held on Thursday, at the Cannon-street Hotel, for the purpose of considering and, if thought advisable, passing resolutions voluntarily winding-up the company with a view to its reconstruction.—Mr. A. W. BIGGS presided.

The SECRETARY (Mr. R. L. Hobbs) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—As I expect we are all busy men, I mean to make my remarks as brief as possible, and, simply stating the facts, leave you to form your own conclusions. When we last met in January, it was the wish of the shareholders then present that your board should forthwith proceed to open negotiations for the acquisition of another property. We have done so, and our object in asking you to meet us to-day is to give us an opportunity of laying before you for consideration the scheme for the acquisition of this property, and the reconstruction of the company which will thereby be rendered necessary. I need not tell you that it is a very difficult matter to get what we consider a suitable property to lay before you, for my colleagues and myself determined from the outset we would have nothing whatever to do with any property unless we had ample and sufficient time to thoroughly investigate it; and, further, that should we decide to take it up, the purchase-money must be entirely in shares. I am glad to be able to tell you that, after a considerable amount of trouble, we have been able to make arrangements to acquire a property on these terms. The property is situated in Western Australia, in what is known as the Coolgardie district. In that district an English company, known as the Hampton Plains Estate Company, owns some 200,000 acres. They have obtained exceptional advantages from the West Australian Government, both as regards labour and in the fact that they are exempted from the payment of taxes until, I think, the year 1905, excepting a small royalty of 2s. an ounce on the gold produced. Naturally, in making arrangements with them, we shall share with them all those advantages. A few months ago a company was formed under the name of the Hampton Plains Exploration Company, as its name implies, for the exploration and development of this estate. I have the honour of being a director of that company, and it is largely owing to my being in that position that I was able to secure to the New Gold Hill Company the first refusal of two blocks recently pegged out, and it will be for you, gentlemen, after hearing the details of the scheme, to say whether the offer shall be accepted or not. Mr. Mercer, of the firm of Bewick and Moreing, who is their resident partner in Western Australia, has examined block 50 of the Hampton Plains, and he has pegged out these two blocks for the Exploration Company. It was only done very recently, so we have not much information about them; but this is what he says:—"They are on the best parts of the reefs discovered on block 50." We have no later news to give you at this moment, but there is a party at work on the reef, so that we may hear something more on any day. I think, however, it would be of interest to you, as casting some light on the probable value of these reefs, if I read some extracts from the Hampton Plains Estate Company's circular. Mr. Mercer reported by cable to the Hampton Plains Estates, as follows:—"Hampton Plains Estates. Have returned from Block 50. Is distant 40 miles east of Coolgardie, the area is 5 miles by 2½, the total extent being 8000 acres. Upon examination it is found that the block possesses unusually good prospects, particularly to the west of a straight line drawn from the north-west to the south-east corner. There are numerous extensive outcrops forming a belt of veins running parallel with this line. Three of these veins particularly are well worth your attention immediately. Pieces of rock containing visible gold picked up on the surface. Payable alluvial has also been worked. There is plenty of timber on the property, and water can be obtained from wells, as is usually the case." I will also read you a further report made for the West Australian Gold Fields (Limited) by the late Mr. Driffield, of the firm of H. J. Saunders and Co.:—"I have much pleasure in confirming my cable sent yesterday, and most congratulate you on our at last getting something really valuable. It was discovered by our last prospecting party, in charge of Mr. Fay, who pegged out 50 acres. The position is 2½ miles north of the previous find I went to inspect, so it must be almost on the northern boundary of Lot 50. I have had a further wire from Coolgardie, saying that 50 acres are pegged out, containing five parallel reefs from 1 to 2 feet wide, and carrying fine and coarse gold. Wire with reference to assays reads as follows:—"Pay's sample No. 1 gives 20 ounces; No. 2 gives 19 ounces; No. 3 gives 3½ ounces." It is just as well to remember that this report was sent prior to Mr. Mercer's report, and yet Mr. Mercer reports that the two blocks he has pegged out are the best on the reef discovered in block 50. I think, under those circumstances, and with this evidence before us, it is worth our while to spend a little money prospecting these two blocks. Then we shall know whether the reefs are worth while taking up or not. I come next, gentlemen, to speak of the terms upon which we have arranged this option. We have arranged with the Hampton Plains Exploration Company that for a period of nine months we are to have the right of exploring these two 25 acre blocks. If at the end of that time we should find that the blocks are not worth working, we have the power of letting the matter drop entirely, and no further liability whatever attaches to the company. We shall simply have lost the money we shall have spent on developing. If, however, the veins turn out, as I fully expect they will, to be of considerable value, we shall then be able to acquire a long lease of these blocks by the payment of shares partly fully-paid and partly carrying a liability. For this option we shall, of course, have to pay something, and we have agreed to pay £350 in cash. They asked £500. I offered them £250; and, finally, we split the difference slightly in our favor. You will, I think, see the advantages of this scheme. If the block should turn out unfavourably we can get out of it without much loss; if favourably we are able to acquire it entirely for shares. In taking this course, it is unnecessary to ask you to find quite as much money as would represent the cash payment, if we were going to purchase it with cash. Moreover, whatever cash is now raised will be available practically for the development of the property. The next point is as to the arrangements we propose to make for carrying out this scheme. We have come to the conclusion that the best way would be to form a new company, with a capital of £200,000 in 400,000 shares of 10s. each. Of these, 253,474 will be credited with 8s. paid and a liability of 2s., and issued to the liquidator. This will enable him to give one share in the new company for each share in the old company. Of the remaining 146,000 odd, 100,000 will be credited as fully-paid, and 46,000 will be credited with 9s. paid, or a liability of 1s. Should we, at the end of nine months, decide to proceed, we shall then make an agreement with the Hampton Plains Exploration Company, handing them over the 100,000 fully-paid shares, and the 45,000 carrying a liability of £2500. It is, I think, evidence of confidence on the part of the Hampton Plains Exploration Company in the value of the property that they are not only willing to receive payment in shares, but also to accept a liability of over £2000—(hear, hear)—and I would call your attention to the fact that by paying them in shares we have made them partners in the business. They cannot make a cent out of the affair unless we do; so that we are absolutely certain of their cordial co-operation and support in any way in which they can possibly give them. Before asking the solicitor to read the agreement, there are one or two other matters of interest I should like to mention. We sent out proxies because we have a very large number of country shareholders, and we were anxious in a matter of this great importance to know what were their views. I am glad to be able to tell you that we have received proxies representing over 100,000 shares in favour of the scheme. Some more have come in to-day, but they are, of course, not valid. Still, this indicates that shareholders

holding more than 110,000 shares are in favour of the scheme. I have had an interview with some of the largest shareholders, amongst them aggregating about 70,000 shares, and they are cordially with us, and have intimated their intention of taking up the whole of their shares. The proposed liquidator told me that he had already been interviewed by the representatives of a syndicate who are willing to take a large line of shares without any commission, should the shareholders not choose to take them up. Under these circumstances, I think it is pretty certain that our scheme will go through. (Hear, hear.) In addition, I have a little bit of good news to tell you about the old property—the Gold Hill. A syndicate has sent out an engineer, who is now on the property trying a certain chemical process for the treatment of our ore. From information received, I believe that his process is likely to be a success; and, if so, this will materially increase the value of your property. There is only one other matter. You will remember that at the last meeting the shareholders asked us to deal with the shares of certain shareholders who were in arrears with their call. We did so, and we have been able to sell them on the rising market; so that, at the present time, we have over £1000 in the bank, and about £300 more in hand. I think, gentlemen, you will see that your directors have not been idle—(hear, hear)—and I trust you will approve of their scheme. (Applause.)

The SOLICITOR (Mr. F. A. Snell) read the heads of the agreement before the meeting.

The CHAIRMAN then moved the first resolution as follows:—

That it is desirable for the purpose of carrying out arrangements with the Hampton Plains Exploration Company (Limited) to reconstruct the New Gold Hill Company (Limited) and accordingly that the same be wound up voluntarily under the provisions of the Companies Act, 1862 to 1890, and that Mr. James Drayson Austen Norris, of Suffolk House, Laurence Pountney-hill, in the City of London, chartered accountant, be and is hereby appointed liquidator for the purpose of such winding-up.

Mr. BOYLE seconded the resolution.

The CHAIRMAN, in answer to questions, said that the expenditure upon the new property would be limited to something like £150 a month.

Mr. HOLLAND did not suppose for one moment that anybody was likely to dissent from the scheme submitted by the directors; but in the event of anybody doing so, obviously his best course would be to dispose of his shares, which were now saleable upon the market at something like 1s. 6d.

Mr. WHYTE thought the value of the new property would soon be determined, and if the work upon it were carried on energetically, he thought there need be no delay in the settlement of the matter.

The CHAIRMAN said that the board would certainly see that the work was carried on energetically. What the value of the property was it was impossible for the directors to tell, but if the gold were there, they would get it.

The resolution was then put, and carried unanimously.

Subsequently the following resolutions were, upon the motion of the CHAIRMAN, unanimously carried:—

That a new company be registered under the name of the "Hampton Gold Hill Mines (Limited)," or with some other name approved by the liquidator, with a Memorandum and Articles of Association to be also approved by such liquidator.

That pursuant to section 161 of the Companies Act, 1862, the liquidator be, and he is, hereby authorized to sell and transfer all the mines, mining rights, plant and machinery, and all other the business, property, undertaking, and assets of the company, whatsoever and wheresoever, to the new company, upon the terms and conditions of the draft agreement now submitted to and approved of by the meeting, and identified by the signature of the Chairman thereto, and to enter into an agreement with such new company when incorporated in the terms of the said draft, and to carry the same into effect with such modifications (if any) in the terms thereof as he may think expedient.

A vote of thanks to the Chairman terminated the proceedings.

THE NEW COLORADO SILVER MINING COMPANY, LIMITED.

Matters at the mine wearing a better face.—Some phenomenal assays.

An extraordinary general meeting of the shareholders in this company was held at the Cannon-street Hotel, on Thursday last, for the purpose of discussing the position of the company in the light of the late discoveries at the mine, and to consider the best course to pursue in dealing with a number of forfeited shares now at the disposal of the company.—Mr. JOHN PETERS presided.

The SECRETARY (Mr. John A. M. Bonar) read the notice convening the meeting.

The CHAIRMAN said the directors had deemed it necessary, as would have been gathered from the notice convening the meeting, to call the shareholders together to discuss the new position of the company's affairs. For a long time the company had been under a cloud; but on April 17th a letter was received from the manager, which contained the following passage:—"I am pleased to be able to report a rather important discovery in the mine, the first fruit of our patient development work. The lessees in the crosscut north from the Brown drift (at the Silver Ore tunnel level) have cut into a very good-looking vein carrying over 4 inches (in several streaks) of very high-grade ore, samples of which assay as high as 1000 ounces per ton. We do not yet know whether this is the main Brown vein, left by mistake when Mr. Cornish's communication to the Brown shaft was driven, or the C-in vein, but is undoubtedly whole ground for 100 feet over the level, and is altogether untouched beneath." The directors were, of course, highly pleased at this turn of affairs, coming, as it did, after such a long period of depression, and almost at the end of the company's financial resources. The important feature in the communication was that the vein was much wider, which would allow of more economical working. At the time the discovery was made the mine was being worked by tributaries, and the arrangement made with them was that if any discoveries were made they should be entitled to choose 200 feet either east or west, but that the ground above and below should not belong to them. As soon as the ground was secured, the company would have to supply a sufficient amount of labour to get the stone out. In order to get further confirmation from their mines the directors communicated with their manager who subsequently, sent the following:—"The important discovery in the Silver Ore tunnel, previously reported, continues to open up in a very gratifying manner, and it now shows a solid leader of good ore, over 6 inches in width. I am getting more convinced that we have struck the lost Coin vein." In answer to a further communication, the manager cabled the following that morning:—"400 ounces of the first quality, 110 second quality ore. Eleven tons mined. Width of vein is 6 inches. Improving. A practical certainty." The last phrase referred to the question whether there was a prospect of the continuation of a good leader. This communication confirmed the earlier ones, and it was now practically certain that the company had a much better prospect opening before it. There was, however, the fact that the company would have to provide the necessary labour to get out the ore. Before reconstruction the company had a nominal capital of £325,000, all paid-up. Upon the reconstruction the capital was divided by five and the nominal capital of the company put at £65,000, of which 54,533 shares were applied for. Of this number 20,000 were applied for by one shareholder, but, unfortunately, after paying an instalment he was unable to continue his payments, so that, after giving him a long time in which to pay, the board had no alternative but to forfeit his shares. These 20,000 shares the directors had decided, with the assent of the shareholders, to offer to the present shareholders of the company at 2s. 6d. In the event of their not being applied for there were others ready to take them all, the new discovery having created a considerable market for them. This would give the directors sufficient money to develop thoroughly the new discovery, besides working upon some other points in the mine which were looking much more favourable than for some time

past. The Chairman concluded by calling on Mr. J. H. Collins to move a resolution.

Mr. COLLINS moved:—

That the 20,000 shares, numbers 33,467 to 53,466, forfeited by the board on January 15, 1894, now the property of the company under Article 24, and credited with 17s. 6d. paid, be offered to the shareholders at 2s. 6d. each. All applications to be sent to the secretary, on or before 20th inst., such applications to be dealt with in order of priority.

Mr. C. J. CRICKMER seconded the resolution, which was carried unanimously.

A vote of thanks to the Chairman terminated the proceedings.

THE GLENROCK COMPANY, LIMITED.

Reconstruction agreed upon with practical unanimity.—A motion for a committee rejected by a large majority.

An ordinary general, followed by an extraordinary general, meeting of the shareholders in the Glenrock Company (Limited) was held yesterday at the Cannon-street Hotel, the chair being occupied by Mr. G. F. TAVENOR.

The SECRETARY (Mr. W. P. Owen) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I think that as we have to-day two meetings—an extraordinary general meeting to follow this, for the discussion of matters generally in relation to the company—I had better at this juncture confine myself to remarking upon the balance-sheet which I have in my hand, a copy of which has been sent to every shareholder. If you look at the balance-sheet you will find that since the company was last reconstructed, when we had to find £5000 for the Premier on mortgage, our expenditure generally during the 17 months has amounted to something like £2401. Our general expenses—such as legal advice, printing and stationery, offices, and sundries—have, during the same period, amounted to £969 5s. 2d. Three of those items I may, perhaps, deal with. The legal expenses, which amount to £182 14s. 9d., are not heavy considering the amount of law we have had to go through. I do not think our solicitors have treated us at all unkindly. The item of stationery speaks for itself. The office expenses, for 17 months—£378 15s.—do not amount to a large sum. It would be impossible to pay any extravagant salaries out of that. Sundry expenses, £111 17s. 3d.; postage and telegrams, £152 16s. 5d.; and bank charges, £30 0s. 7d., go to make up a total of £969 5s. 2d. Now we come to the directors' fees, which amount to £910 8s. 4d., and, I may modestly remark, might have been entered in a different manner, for no director has taken any fees during the past nine months. There is a special inspection which is set at £105, and which arose because we considered it necessary to have an opinion as to the Premier Mine from Mr. Hosking, who was recommended to us as being a man of great knowledge of New Zealand mining, who had been in charge of many important works there, and who knew as much of mining in the colony as anybody could know. His report has been sent round to you, and you are in possession of all the details as to what he thinks should be done in future in regard to the Premier Mine. Then we come to the Indian expenditure, which amounts to £416 14s. 1d. We were obliged to keep our Indian properties going, seeing that we have there large machinery, some 5000 acres of land, houses, and other assets of importance. In relation to that item we have on the other side £177 5s., the proceeds of produce and other receipts in India. This, of course, is a return on our outlay in India. The transfer fees amount to £75 2s. 6d., so that you will see that we have not been dormant in the matter of the transfer of shares. Interest amounts to £77 7s., and then there comes an important factor in our financial position, the profit on shares in syndicates, which works out at £2028 2s. 6d. An opportunity was afforded some time since of acquiring an interest in a West Australian company of position and standing, called the Hampton Purchase Syndicate. The directors of that company were kind enough, at my solicitation, to allow the Glenrock to obtain a certain interest in their shares. For that interest we have received as profit £1400; and we have further received £553 2s. 6d., and again £75; so that we really estimate the entire profit on the transaction at £2028 2s. 6d., which is not at all a bad transaction. (Applause.) This is the one really satisfactory thing we have to lay before you.

A SHAREHOLDER: What did the company pay for that?

The CHAIRMAN: £200. The balance, being a loss, is £43 10s. 7d., and that I think, is not at all a large matter for 17 months' working. So that as far as the balance-sheet is concerned, I think the directors may justly take a great deal of satisfaction in thinking that no one can say there has been anything lavish or extravagant or profuse in regard to the management; but that, on the contrary, very rigid economy has been observed. There is a good deal more that I have to say to you, but I would prefer to say it when we go into the question of the Premier Mine at the extraordinary general meeting. The Chairman concluded by moving the adoption of the report and accounts.

Mr. W. W. TICKLE seconded the motion.

Colonel HOWARD thought that if reconstruction were carried through again some stipulation should be made in regard to the fees of the directors. If the property were as good as the directors believed they need have no hesitation in accepting a percentage upon the net profits of the company.

Major JOSEPH said the directors seemed to take great credit for the fact that the loss on the 17 months' working of the company had only amounted to £43. When he invested his money in the company, however, he had done so in the hope rather of bearing of gains than losses. (Laughter.) He had been a shareholder from the commencement of the company, and so far as he remembered—and his memory was pretty accurate in such matters—had never received a dividend. It was an honourable feature in connection with the management that some of the directors had large holdings in the company, and retained them in spite of the vicissitudes which the company had passed through. He did not, however, think that the Chairman could have a very good opinion of the property, seeing that he had sold a large proportion of his shares.

Mr. BUTCHER asked for some more information in relation to the calls in arrears. He thought, moreover, that the shareholders had a right to be supplied with information as to the amount of money spent upon the Premier Mine.

The CHAIRMAN said that the expenditure upon the Premier Mine was shown in the balance sheet, some details of which he might give them. There was an amount actually subscribed by the Glenrock Company of £38,377, of which £18,000 was paid to the vendors and £20,000 was devoted to working the mine. This was not much capital to put into a mine covering so large an area, and it had all since been expended. In regard to other matters the directors had worked with the utmost energy to save the property in New Zealand, and, in doing so, had incurred a good deal of odium in the colony, and had also abstained from drawing their fees, believing that the company was in need of money.

Mr. DAWSON said it was obvious that the only judicious course for the shareholders to take was to accept the report, and to fall in with the scheme submitted by the directors. The report made by Mr. Hosking on the property was a very straightforward one—(hear, hear)—and thoroughly satisfactory, and he considered that if the shareholders placed confidence in the board, the future of the company might be very different from its past. (Hear, hear.) By going into the scheme the company had certainly a chance of salvation; but if by any chance it turned out to be a failure, there would, of course, be no question of another reconstruction.

The CHAIRMAN then put the motion for the adoption of the report and accounts, which was carried with practical unanimity.

The SECRETARY then read the notice convening the extraordinary general meeting.

The CHAIRMAN said: Gentlemen—I have very much pleasure in addressing you upon this occasion, and giving you some idea of the

to our proposed procedure. As you are aware, the past 17 months of the company's history has been a period of very arduous and exacting work. The £5000 which the shareholders in the Glenrock Company subscribed were lent to the Premier Company on mortgage. We took care that the mortgage should be of as severe and hard a character as is possible in New Zealand; and that interest should accrue and a bonus become due when the money was paid. Things at the mine, however, took an unexpected turn, and the £5000 was absorbed before actually any discoveries were made which could bring anything into the balance-sheet *per contra*. The consequence was that the manager, in his strenuous efforts to open up a large body of payable ore, exceeded the amount of £5000, and made the Premier Company liable for certain stores and miners' wages. It was rather a good feature in connection with this matter that the miners actually worked during some months for little or no pay, so hopeful were they that the mine would produce something of a profitable character as to enable their wages to be paid in full. The Australian law, however, is very rigid in regard to this matter, and, however safe your mortgage may be, and however closely you may have tied-up the property, the miners who have been working on the mine come before anyone, and they can sell the mine in order to enforce their claim. This is the position the mine got into. Meanwhile we were constantly cabled to, and the people there thought we ought to be very much ashamed of ourselves for not advancing the money necessary to put the mine out of its difficulties. We did not feel inclined to advance any more money, seeing that there could be no security whatever. At last we were told that unless something was done there would be a climax to the matter, and our interest in the property would be entirely lost. Times had been very bad in New Zealand, and the shareholders there did not feel inclined to subscribe the necessary money. The only thing we could do, therefore, was to act justly, but at all costs to preserve the interests of the Glenrock Company. Accordingly, we instructed an agent in New Zealand to watch the progress of affairs, and to see that no one purchased the mine but the Glenrock Company. The sheriff's officer took possession of the mine, and ordered its sale. Mr. Farrell was present, and bid very high for one lot which stood in the centre of the property, and might have given us considerable inconvenience had it passed into other hands. He, however, tendered in payment a cheque on the New Zealand Bank, which, not being represented on the spot, was not accepted by the auctioneer, and our own men came in and purchased at a lower figure. We have the mine in our possession now; together with the Sunrise property which we purchased for a sum of something like £1200 in cash, and the payment of certain liabilities, which we had to agree to accept. We have succeeded in obtaining the whole of the Glenrock Mine. There are no further difficulties in the way of mixed control or foreign interests, and I think the property will in the future repay us very well. There can be no doubt that New Zealand has a great future before it; but for us to work our mines money is, of course, necessary. We require funds, and also a good manager on the spot. The best manager we can think of at present is Mr. Hosking. (Hear, hear.) Now we have, in addition, acquired recently something which in future may be of very considerable importance to the shareholders, and that is the right over a very large tract of country in West Australia to prospect, develop, and take up blocks of mining leases in 25 or 50 acres over the whole of the auriferous ground of the Hampton Plains Estate. In the event of our finding anything of considerable value there, we should have to pay for it in shares, not cash—shares in any company we might float—which would be an equivalent to 25 per cent. of whatever gold we take out of the mine. This is an advantage which only one or two companies have received, and these have, in consequence of the arrangement, been able to find a very considerable sum of working capital, irrespective of anything else. The formation of a separate company would mean a great deal for the Glenrock proprietors. It would mean a great increase in the value of their shares, would lessen their expenses, and might bring in a considerable sum of money. In regard to the Premier Mine, its capabilities are large, and there is no earthly reason why it should not return good results and pay good dividends. The fact that we have the entire property in our hands alters entirely the complexion of affairs there. The chief features of the scheme of reconstruction we have to put before you are that there shall be 450,000 shares of 10s., with 8s. paid-up, and a liability of 2s. This will yield a total amount of £45,000. It is not likely that we shall require for a considerable period any sum beyond the 3d. on application and the 3d. on allotment. The Chairman concluded by moving the resolutions embodying the scheme of reconstruction, and appointing Mr. Shaw, of 23, Queen Victoria-street, liquidator, which were duly seconded.

The SOLICITOR (Mr. Romer) read the agreement. Major JOSEPH said that almost the only favourable paragraph in Mr. Hosking's report, in regard to the Premier Mine, was the following:—"The mine has been unskilfully worked, and no system of opening-out the mine on an economical plan has been introduced. From the appearance of the reef I believe it will be continuous, and I am of the opinion that with an available capital of £5000, in nine months from the time of commencing active operations under skilled and economical management, the mine can be opened out so as to insure regular dividends from the No. 1 shoot of ore, besides driving the high level adit and prospecting the western part of your property, where, if payable gold be found, the dividends would be largely increased." He moved an amendment appointing a committee of investigation, which, having been seconded, was vigorously opposed from several quarters of the room, and, after some discussion, rejected by a large majority.

Mr. TAHOUDIN attempted to move an amendment decreasing the liability upon the shares, which the SOLICITOR declared could not be put, no notice having been given of it.

Ultimately the original resolutions were put and carried by a large majority.

At the conclusion of the meeting a poll was demanded on the resolutions by one of the dissentient shareholders.

The proceedings terminated with a cordial vote of thanks to the Chairman.

WESTERN AUSTRALIAN DEVELOPMENT CORPORATION (LIMITED).—An extraordinary general meeting of the members of the Western Australian Development Corporation took place on Thursday, at the Westminster Palace Hotel, the chair being occupied by Sir William Young, Bart., for the purpose of considering certain proposals for the reorganization of the company. The Chairman, in his opening speech, referred to the success of the company, which had been able to already pay the shareholders a dividend equal to 100 per cent. per annum, which more than justified the bright prospects which he had anticipated in addressing the shareholders in January last. The present proposal which he had to deal with was one which had been submitted to the directors by several of the larger shareholders, and also by prominent members of the Stock Exchange, who were of opinion that it was very desirable that the capital of the company be increased. It was, therefore, decided to approach the shareholders with a scheme for the registration of a new company, to be called the West Australian Development Corporation, with a capital of £50,000. Each holder of one share in the old corporation would receive four new shares of £1 each, fully paid up, in the new company. It would, no doubt, be a decided benefit both to the board and the proprietors that they should have within their control a margin of £10,000 with which to deal in the interests of the shareholders, especially so as substantial business was frequently within their reach, and it was an advantage to all concerned that they should have a reserve share capital at their disposal. The Chairman concluded by moving the resolutions embodying the scheme of reconstruction. Captain Harcourt Ivory seconded the resolutions, which were put and carried unanimously.

—The MYBORN GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of April last, which realised £21,229 11s. 3d.

THE WAIHI GOLD MINING COMPANY, LIMITED

Dividends amounting to 20 per cent. paid.—A new company to be organised.—Satisfactory outlook.

An ordinary general meeting of this company was held yesterday at the Cannon-street Hotel, under the presidency of Mr. THOMAS RUSSELL, C.M.G.

The SECRETARY (Mr. Charles Akers) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and the approval of the dividends already paid, amounting to 20 per cent. per annum, said he thought the accounts of 1894 would be regarded as satisfactory, especially as for several months of the year they were using the pan process and so losing gold. A great deal of development work had been done during the year under review. They sunk an expensive shaft, erected a splendid cyanide plant, and did part of the extension of the battery from 60 to 90 head, and though some of that expenditure had come in for payment in 1895, yet 1894 had carried more than its share. His opinion was that the accounts for 1894 were burdened quite £5000 more than they should have been, and that the balance of £16,551 carried down should have been over £20,000. The 1894 account showed a larger ratio of cost to the output than he hoped they would have again. As they increased the out-turn the cost of management and general expenses would not increase much, and they might reasonably hope for a large reduction in the future. Soon after the shareholders authorised the issue of the new capital it was raised. The new capital paid up to date was £26,574, leaving the sum of £23,718 unpaid, awaiting the call of the board as it might be required. When the shareholders authorised more rapid development of the property, the directors sent telegraphic instructions for the most important works to be put in hand, and those works had been pressed forward as fast as possible. Some of the heavy works, for which no previous preparation had been made, took more time to start than had been calculated on, but the difficulties had been overcome, and the works were now in progress continuously. The mine manager in his April report stated that the reef in face showed a fine body of ore 10 feet wide, of good quality. The left-hand branch from the point of junction had continued its course away from the right-hand branch, not quite parallel with the Martha reef, but inclining slightly from it. At the date of the latest advice the drive on this branch had been carried westward for about 142 feet west of the junction, or 292 feet west of the crosscut, and the mine manager reported that the lode in the face showed a splendid body of ore, 9 feet in thickness, of good quality. The characteristics of these Welcome lodes were that the stone was of a finer quality, and more uniformly good than the Martha lode. The latest advice of the developments (April 9) showed that the lodes had much improved in size, and now were so large as to have become important features in the mine, rivaling in value and importance the Martha lode itself. When first driven on the Welcome lode was a reef of 6 or 7 feet wide, and it had now developed into two large reefs, which in the adit level showed a face of 14 feet, and in the No. 1 level 19 feet. The two levels had been connected by winzes, the stone throughout being above the average value of the Martha ore. Thirty head of new stamps were now at work. Up to about a fortnight ago only 60 head were running, then 20 new ones were started, and soon after the other 10 head. The average number running for the full month was 74, and the yield from 2500 tons had been £8000. The return for next month would for the first time give them the work of the full 90 head, and there should henceforth be a large increase in the tonnage reduced at the mill. Mr. Barry, writing on January 19 last, stated that the power that would be derived from the Waitakauri race alone during the greater part of the year would be sufficient for a 100-stamp mill, but as, no doubt, all available power would be of immense value in the near future, he thought they should take up the whole of the valuable rights just granted. He said the directors intended shortly to organise a company for working the Union section of the company's property. They had deferred action to the present time in order to complete the titles to the two special mining claims of 100 acres each, which they had secured. They felt that as they were about to raise and expend a large sum of money to thoroughly develop the Union section of the property, it was necessary to secure adjoining mining areas which would be largely increased in value by that expenditure, and they had accordingly obtained two special mining claims of 100 acres each upon the line of large lodes which ran from the Union property towards, and presumably into, these special claims. The Government had now sanctioned the granting of these claims under the mining laws of the colony, and the directors would immediately proceed with the organisation of the new company. The shares or their proceeds would be wholly the property of the Waihi Company. In conclusion, he said he thought the developments since January last were very favourable, and congratulated the shareholders upon the healthy and satisfactory outlook for the current year. (Applause.)

Mr. HENRY J. BRISTOW seconded the resolution, which was carried unanimously.

The retiring directors, Sir Edward Stafford, G.C.M.G. and Mr. A. M. Mitchell, were re-elected, and the auditor, Mr. C. T. Moore, was also reappointed.

An extraordinary general meeting was subsequently held, when a resolution was passed unanimously altering the Articles of Association so as to enable the directors to issue share warrants to bearer where required.

A vote of thanks to the Chairman and his colleagues, and also to the officers at the mine, concluded the proceedings.

THE NECESSITY OF COMPETENT GEOLOGICAL SURVEYS OF GOLD MINES.—Mr. Nicol Brown, F.G.S., read a paper on this subject last evening before the Geologists' Association at the University College, Gower-street. In the course of his remarks, Mr. Brown said the gold industry had been one of the slowest to adopt true scientific methods of working, the neglect of which was detrimental to any practical undertaking. The finding of gold must no longer be left to chance, but must be the result of well-designed and well-organised efforts. He advocated that proper geological surveys should now take the place of the prospector's empirical work, in order to prepare the field for the tools of the workers of the mines. Further, it was only by a proper understanding of the way in which gold is locked up in the quartz rocks or in the derivative sand and clay, the product of the stamps then would lead to a comprehension of the true method of obtaining gold cheaply at a rate which would yield a profit to capitalists. It was, therefore, necessary to understand in some degree the distribution of gold as seen in Nature. Nature delighted to hide her treasures, so that the human race might assert their best talents in finding them out. In concluding his remarks the lecturer said there was evidence that a better state of things was growing up in the gold industry, while the handsome dividends paid by some of the gold mining companies showed the profits that could be derived from a careful working of the business based upon intelligent and scientific treatment. Gold so obtained would reach a steady value. It would neither become greatly "appreciated" nor "depreciated," as the supply would constantly keep pace with the requirements of commerce, and it would help to keep the countless mills of many different industries in continuous motion, without intermittent periods of fluctuating trade, and thus bring benefits to many people in all parts of the earth.

MINING IN CORNWALL

AND DEVON:

NOTES ON MINING IN THE WEST.

(BY OUR SPECIAL CORRESPONDENT).

THE Whitsuntide holidays have interrupted what business there was on the Cornish Share Market, and in the last two or three days the apparent unsteadiness of the tin market has not tended to encourage speculation. Things have, therefore, been as quiet as they well can be, and transactions have been few and far between. Prices, however, keep remarkably steady, the result, probably, of indisposition on the part of holders to part with their stock, especially in view of the probability of a rise in prices before the end of the year.

As was anticipated from the meeting of the Dolcoath shareholders at which the first intimation was given that it was proposed to convert the company into a Limited concern, the necessary preliminary steps are being approved by the overwhelming majority of the shareholders. At the meeting on Thursday the resolutions authorising the winding-up of the Cost-book company and the registration were carried, not a single shareholder voting against. The only criticism to which the directors were subjected was directed to the point raised by Mr. Heard, who questioned the expediency of passing Articles of Association of the terms of which the shareholders were ignorant. Mr. Heard's opinion is endorsed by a large number, but the obvious reply that if shareholders representing 3900 of 4700 shares in which the mine is divided, are content to place confidence in the directors, without having actually seen the Articles, there cannot be much for the holders of the remaining 800 shares to complain about. We understand that the Articles are of a very ordinary character, and as was explained at the meeting, are open to the inspection of the shareholders generally, though it was considered inexpedient to allow the full text to become public property. They provide for half-yearly meetings, the inspection of such books as the directors or shareholders in general meeting may decide, and with regard to supplies by directors it is laid down that the directors shall not be excluded from tendering, provided that at the time they disclose their interest, and abstain from voting. By the Articles Mr. M. H. Williams is appointed Chairman, and Captain Josiah Thomas is promoted to the position of managing director. This naturally means that there will have to be a new manager or superintendent of the mine, and there is no doubt that for this new position Captain R. Arthur Thomas will be selected. He has had charge of the mine during his father's enforced absence, and his management of the affairs entrusted to his charge has commended itself to those with whom he has been brought into contact.

THERE is no information available as to what has been the financial result of the working of the mine since the last ordinary meeting of the Cost-book company, but it is understood that a heavy loss has been incurred as a consequence of the lessened facilities for bringing stuff to surface. The mine is, however, looking remarkably well, and at the 410, the deepest point, the lode is richer than it has ever been.

THANKS to the improved price obtained for tin during the past quarter, a small profit was shown at East Pool meeting on Monday, though it was insufficient to justify a dividend being declared. So far as the actual amount of ore raised is concerned there was a slight falling-off, but the average price was about £4 per ton better than at the last account. The Chairman, in referring to the adjoining mine, remarked that East Pool stuff only produced 40 lbs. of tin to the ton, yet there were mines where the produce was much higher, but which were making a loss instead of a profit. Mr. Bramwell did not mention that upwards of £1000 of the quarter's revenue at East Pool came from the sale of arsenic. If the mine had depended entirely on tin, as some of the neighbouring mines are forced to do, there would have been a very considerable balance on the wrong side.

Nor much light was thrown on the prospects of an amalgamation of East Pool and Wheal Agar. Mr. Bramwell's references to the matter were studiously guarded, and it is evident that the East Pool committee are waiting for the Agar Committee to make a definite proposal. When Wheal Agar adventurers meet next Tuesday, the whole question will doubtless be thrashed out, and it is to be hoped that there will be something for the joint meeting of the two executives to act upon at the meeting which is to be held subsequently. In view of the great importance of this subject, it is more than ever to be regretted that the East Pool committee has not been strengthened, as we have several times suggested.

WESTERN AUSTRALIA'S APRIL OUTPUT.

	Tons.	Oz.
Bayley's Reward	328	365
Bayley's Reward, No. 1 South	280	421
Burbank's Birthday Gift	48	292
Bonnie Doon (Bamboo Creek)	24	30
Charlie	12	74
Central (Southern Cross)	738	297
Day Dawn (Murchison)	620	578
East	200	139
Emerald Reward (Murchison)	193	422
Federation (Murchison)	10	14
Fraser's (Southern Cross)	880	452
Fraser's South (Southern Cross)	580	420
Great Boulder (Hannan's)	33	331
General (Marble Bar)	29	1,471
Hill End (McDonald's Broad Arrow)	48	107
I-land (Lake Austin) dolled	27	473
Kinsella (Murchison)	40	120
Kelly, Johnston, and Co. (Nannine)	100	146
Lake View and Boulder (East Hannan's)	20	360
Lilly (Murchison)	170	599
Lindsay's East Extended (trial crushing)	100	240
Mount Prophecy (Bamboo Creek)	5	12
Morning Star	57	99
Mount Borgess	423	650
Marble Bar Queen	494	424
Maori Tributers (Co.)	5	11
New Chum (Mount Magnet)	42	57
New Victoria	—	1,137
No. 1 South-East Timbuctoo	230	288
Queen May (Murchison)	34	127
Richmond (Day Dawn)	23	33
Star of the East (Nannine)	23	81
Star of West Australia (Broad Arrow)	425	450
Sailor Lad (Day Dawn)	14	164
Trenton (Murchison)	21	74
True Blue (Roebourne)	210	89
Victory United (Murchison)	29	43
	320	698

METAL TRADE STATISTICS.

MAY, 1895.

COPPER.

(From Messrs. Henry R. Merton and Co.'s Circular for May, 1895).

	May 31, 1895.	May 15, 1895.	Apr. 30, 1895.	31st May, 1894.	1893.	1892.
STOCKS IN ENGLAND AND FRANCE:—						
Liverpool and Swansea, Chili Bars	38,814	39,060	38,655	31,684	30,520	29,113
Chili Ingots	672	107	132	78	197	325
Chili Ores and Regulus (fine)	4,433	4,450	5,116	5,186	3,982	7,831
Other Stuff (fine) & English Copper	4,388	4,410	4,895	5,046	6,922	7,493
London (including landings)	1,611	1,758	803	1,001	4,803	4,584
Stocks of fine Copper in Havre, Rouen, Bordeaux and Dunkirk	49,961	50,299	50,439	43,780	45,551	49,065
ADVISED FROM CHILI BY MAIL AND CABLE, FINE COPPER	3,150	3,350	3,000	3,110	2,800	3,400
Australia, by Mail and Cable, Fine Copper	1,100	1,170	1,000	700	800	600
	54,211	54,749	54,239	47,580	49,351	52,965
Price of Chili Bars and G.M.B.'s per ton	£45 0 0	£43 15 0	£40 17 6	£38 17 6	£43 2 6	£46 7 6

COMPARATIVE STATEMENT.

Month ending	Tons.	Price of G.M.B.	Arrivals					Charters from Chili to Europe.	Shipments from Australia to London.	Total Supply.	Total Deliveries.
			England and France.	Other European Ports.	England & France from						
					Spain and Portugal (excluding Pyrites).	Other Countries.					
			From S. America								
31st May 1895	54,211	£43 0 0	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
30th April 1895	54,339	£43 17 6	2,615	2,329	442	703	2,450	800	13,236	8,817	8,817
31st March 1895	54,339	£43 0 0	1,008	1,930	2,118	1,611	2,700	700	10,647	9,965	9,965
31st February 1895	54,339	£43 0 0	1,636	1,599	1,51	2,991	1,250	800	9,477	11,338	11,338
31st January 1895	54,339	£43 0 0	2,430	1,941	1,942	1,214	1,250	750	11,425	11,338	11,338
31st December 1894	54,339	£41 0 0	4,508	1,249	1,773	2,214	1,850	850	11,849	9,010	9,010
31st November 1894	52,295	£41 0 0	2,538	1,048	1,355	2,366	2,300	500	10,518	8,717	8,717
31st October 1894	52,288	£40 15 0	2,103	1,895	1,335	1,235	1,250	500	11,250	10,760	10,760
30th September 1894	52,134	£41 10 0	2,809	3,779	1,334	1,088	1,800	450	9,508	9,241	9,241
31st August 1894	52,047	£40 7 6	1,40	3,779	1,334	1,088	1,800	500	10,064	10,062	10,062
31st July 1894	51,325	£38 2 6	3,455	2,365	1,209	1,816	1,800	550	17,192	15,942	15,942
30th June 1894	50,912	£38 5 0	2,728	2,945	808	3,522	2,300	650	15,001	10,039	10,039
			32,135	29,300	15,201	24,821	22,450	7,700	131,621	124,890	124,890
31st May 1894	47,550	£38 17 6	2,778	2,759	1,978	3,023	1,850	550	12,936	12,162	12,162
30th April 1894	46,806	£40 15 0	3,559	2,811	1,057	2,977	1,850	400	10,284	11,425	11,425
31st March 1894	46,597	£40 15 0	3,096	3,096	1,699	1,699	1,600	500	10,575	11,425	11,425
31st February 1894	47,364	£41 0 0	2,198	3,076	1,927	784	1,900	500	10,308	10,173	10,173
31st January 1894	47,152	£41 5 0	3,921	2,409	1,477	890	1,350	500	11,947	12,000	12,000
31st December 1893	47,295	£42 15 0	3,948	4,252	1,687	1,332	2,700	500	12,329	13,771	13,771
31st November 1893	46,527	£43 0 0	6,146	4,388	1,332	5,614	1,400	450	19,400	20,613	20,613
31st October 1893	46,040	£42 2 6	7,057	6,275	999	3,082	2,200	1000	20,853	20,517	20,517
30th September 1893	47,344	£41 17 6	3,940	3,971	1,255	621	1,700	100	16,067	16,144	16,144
31st August 1893	47,361	£41 12 6	4,272	2,888	1,535	645	1,000	400	10,900	15,462	15,462
31st July 1893	50,453	£41 12 6	1,236	2,412	1,614	2,607	2,400	400	12,689	12,689	12,689
30th June 1893	49,355	£43 10 0	1,914	2,310	858	2,548	1,850	500	11,336	11,125	11,125
			52,455	40,947	15,721	25,392	22,000	6,650	163,215	165,566	165,566
31st May 1893	49,951	£42 8 6	3,179	987	1,291	1,271	1,750	450	8,928	11,071	11,071
30th April 1893	52,494	£44 10 0	3,521	965	1,091	1,091	1,600	550	7,459	10,836	10,836
31st March 1893	55,271	£45 5 0	1,312	687	1,777	3,291	800	400	8,147	10,566	10,566
31st February 1893	57,420	£45 14 6	1,821	832	1,170	2,785	3,000	420	19,856	10,945	10,945
31st January 1893	56,507	£45 2 6	3,666	455	1,432	4,899	1,000	700	11,773	9,011	9,011
31st December 1892	55,745	£46 17 6	3,235	542	2,555	3,006	2,000	300	2,428	9,991	9,991
31st November 1892	53,498	£47 17 6	4,822	623	690	1,749	1,500	700	5,636	10,640	10,640
31st October 1892	48,078	£45 12 6	752	850	782	2,942	1,850	600	7,938	9,960	9,960
30th September 1892	58,482	£44 2 6	1,018	535	1,615	3,315	1,750	400	10,687	10,687	10,687
31st August 1892	59,718	£44 17 6	4,687	324	765	2,587	1,900	600	9,009	9,019	9,019
31st July 1892	59,738	£44 17 6	2,893	250	2,465	3,744	2,200	600	12,043	8,809	8,809
30th June 1892	56,604	£44 17 6	2,609	416	2,145	4,742	1,600	200	12,315	9,776	9,776
			28,645	7,346	17,672	34,370	21,200	6,000	115,338	119,274	119,274

After the usual adjournment for lunch, the debate was resumed at two o'clock by M. CALVIGNAC, the French delegate, who said he was glad to think Englishmen were making progress on this ques-

tion, as had been evidenced by the declaration of Mr. Abraham M.P. It was also a matter of satisfaction that an English delegate had for the first time declared himself in favour of the nationalisation of mines.

Mr. ALBERT STANLEY (Cannock Chase), replying to the arguments advanced on behalf of the Miners' National Union, said if the men of the North were in favour of getting an eight hours day by organisation how was it they had always been opponents of any projected combination of the majority? Further, how could they reconcile their present position with their position on other subjects? They were not adverse to legislation on mines nationalisation—why in respect of hours? The Federation's objection to surface-men being included in the resolution was founded on principles of policy.

Mr. JOHNSON (Durham) expressed a desire to say a few words on the subject, but there were loud cries of "Vote," particularly on the part of the Continental delegates, and it was accordingly agreed to take the vote. This being done, it was found that every nationality voted for the resolution of the Miners' Federation of Great Britain, with the exception of the British themselves, who were divided, the Miners' National Union voting solid against it. The National Union delegates representing 96,000 men, the figures thus were—for the resolution, 872,000; against, 96,000.

It then became a question whether or not surface workers should be included as the French proposed, and for the first time at any Congress the British delegates voted for this, with the exception of Mr. S. Woods, M.P. (who remained neutral), Mr. Abraham, M.P., Mr. Pickard, M.P., and a few others (who were absent), and the Miners' National Union delegates (who voted solid against the proposal).

The French resolution was therefore carried by practically the same majority as that of the Federation. It was suggested that the resolution in the name of France dealing with working men inspectors of Mines should be next taken. This was agreed to, and the resolution was read. Its terms were:—"That working men inspectors of Mines be so placed as to be thoroughly independent."

Everybody voted for the resolution till it came to the French, when M.M. Calvignac and Basly lifted up their hands by way of protest. The matter was not quite settled even then, however, for M.M. Basly and Calvignac declared that the German President had said something insulting towards them. It was pointed out that what the Chairman had said was that the Conference had not been convened wholly for M. Basly and M. Calvignac. The French delegates seemed to be satisfied that nothing worse than a protest against undue waste of time had been intended, and the declaration from the chair having been accepted, the motion was put to the Conference, and carried unanimously.

The Conference then passed, also with unanimity and without discussion, the German proposition, "that all resolutions which have been carried unanimously shall be sent by the secretaries of each nationality to their respective Governments, with a request to act thereon, and also to acknowledge the receipt of same."

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

Hampton Plains Estate.

The following circular has been issued to the shareholders in the above company:—"You will, no doubt, be glad to have the latest information regarding the development of the company's property, and we are pleased to inform you that the directors have now received a full report from Messrs. Bowick, Moreing, and Co., on block 50, which confirms the high opinion which had formerly been expressed as to the value of your estate. The report itself is very long and technical, and for this reason a full copy is not sent you, but the following are extracts therefrom:—"Several quartz outcrops are crossed, and patches of quartz float that are probably a part of the reef belt, and should not be neglected when serious prospecting work is undertaken. In the centre of the selection is a strong quartz vein about 9 feet wide, in which gold can be seen in two places, where a little work has been done by the lessees (the West Australian Gold Fields, Limited). Gold can be seen freely on the footwall side, but is very fine and pans well. A huge outcrop of quartz seen is 14 or 15 feet wide, and in some places perhaps 20 feet wide. The quartz stands up several feet above the surface of the ground and shows all colours and varieties. The croppings can be seen for a length of 5 or 6 chains, apparently one solid mass of quartz, after which to the south-east it appears to split up into four veins. It is a very enticing point for starting prospecting work, and the indications are sufficient to warrant the expenditure of money on the thorough prospecting of one or more of the veins. Many outcrops of quartz are seen, several of which had been opened by costeens. In most cases, it is said, coarse gold was found, and many pieces showing good gold were seen. A small quartz outcrop was noted, differing materially from other occurrences in this part of the block, by showing blue smoky quartz instead of the glassy iron-stained variety so general here. On the whole the prospective value of the block for auriferous reefs is considered very great, and a moderate expenditure of money should show something more tangible than prospective value. The chances of obtaining fresh water on the upper or western side of it by sinking, appears to be exceedingly favourable. There is an extensive watershed draining through this flat, so everything points to success if a well be sunk in this neighbourhood. By sinking on the flat about half a mile west of the three-mile peg on the east boundary, fresh water could be obtained. The whole area is covered with good gimlet and salmon gum trees, sufficient for all mining requirements for many years to come."—General development. The directors are using every endeavour to develop every portion of the estate in turn, and have sent instructions to sink on a gold-bearing reef on block 59, close to Coolgardie. On this block also the West Australian Gold Fields (Limited) have taken up a claim of 25 acres, and the report from that company's manager is as follows:—"On this selection a reef 4 feet wide has been opened up slightly, proving the reef underlying into the hill west. An average sample of this at surface yielded at the rate of 1 ounce 12 dwts. of gold per ton. This formation gives every promise of turning out a good formation and permanent."—Deep borings for water. The whole of the machinery for this purpose has been dispatched, and the engineer who is to superintend the operations sailed on April 19 last.—Water supply to Coolgardie. The directors, having been informed by reliable authorities that there is a large supply both of fresh and salt water on blocks 59 and 53, applied (on the advice of their manager) to the Government for leave to lay a pipe line into Coolgardie for the supply of water to the town and the neighbouring mines, and the directors are glad to say that this request has been granted. The amount of water immediately available without any sinking is stated by competent authority to be not less than 200,000 gallons per day, and plans are now being prepared by Mr. Oswald Brown, M.I.C.E., late waterworks engineer to the Government of South Australia, for the laying of the pipes and the erecting of the necessary pumping stations. It is at first proposed to deal with from 60,000 to 100,000 gallons per day by pumping from the lakes and watercourses to a hill in the vicinity of Coolgardie from which it will be delivered by gravitation to the mines and residences in the neighbourhood.—Tramway into the estate. The directors, being fully alive to

the necessity of opening up communication with the town of Coolgardie, applied to the Government for leave to lay a tramway into the estate from the town, and the directors are glad to say that this request has also been granted. It is believed that this tramway would be of great benefit to the estate, inasmuch as it would form a ready means of conveyance to residents of Coolgardie to the healthier district of the Hampton Plains, and would, it is believed, enable the company to sell building plots in the town of Coolgardie East, which town site belongs to this company, and which has already been surveyed and approved by the Government.—Prospecting. The directors are continuing the policy of prospecting by means of granting licenses to prospecting companies, and, as each company is bound to expend a certain amount per month in prospecting, there can be no question as to the benefit of this policy. The result of granting prospecting concessions has so far proved exceedingly favourable, for without any risk or expense, several reefs on the property are now being developed by (a) the West Australian Gold Fields (Limited); (b) the Hampton Plains Exploration Company (Limited); (c) the Hampton Gold Fields (Limited), whilst other prospecting parties—viz., London and West Australian Exploration Company (Limited), Glenrock Company (Limited), Mr. F. A. Thompson's Syndicate (Limited) are making arrangements to commence. This company receives a proportion of the profits made by each company without any outlay whatever.—Debtenture debt. At time of allotment the company had a debtenture debt of £50,000. The whole of this (with the exception of £790) has now been redeemed by exchange of debtentures for fully-paid shares. Notice of redemption has been given to the holders of the outstanding debtentures, and the estate will then be free from debt and belong absolutely to the shareholders.—Share warrants to bearer. In response to numerous enquiries, and to meet the wishes of Continental investors, the directors have decided to issue fully-paid share warrants to bearer, and these are in course of preparation.—By order of the board, C. Algernon Moreing, Allen H. P. Stoneham, managing directors."

Robinson Gold Mining Company.

The general manager's summary of operations for April, together with statement of expenditure and revenue, is as follows:—Mine. Quartz milled, 9215 tons.—Development. Drives, 549 feet; raises, 385 feet; crosscuts, 225 feet; shoots, 27 feet; total, 1186 feet.—Main incline shaft west, fifth level. Raises, 53 feet.—Sixth level. Driving west on south reef, 23 feet; raises, 32 feet; crosscuts, 70 feet.—Seventh level. Driving east and west on main reef, 84 feet; raises, 30 feet.—Eighth level. Driving east on main reef, 41 feet; raises, 34 feet.—Ninth level. Driving east and west on main reef, 63 feet; main crosscut, 38 feet.—Tenth level. Driving west on main reef, 30 feet; raises, 8 feet; shoots, 16 feet; crosscut, 39 feet.—Main incline shaft east, fifth level. Driving east on main reef, 24 feet.—Sixth level. Driving west on main reef, 45 feet; driving west on south reef, 21 feet; crosscuts, 15 feet.—Seventh level. Driving west and east on main reef, 42 feet; driving east on south reef, 48 feet; raises, 112 feet; crosscuts, 9 feet.—Eighth level. Driving east on main reef, 42 feet; raises, 90 feet.—Ninth level. Driving east on main reef, 59 feet; main crosscuts, 32 feet.—Tenth level. Driving east on main reef, 27 feet; raises, 87 feet; main crosscuts, 22 feet; total, 1186 feet.—M.L. Stamps at work, 70; net running time, 23½ days; tons crushed, 9215; tons per stamp per diem, 4¼; gold won from above, 8789 ounces 5 dwts.—Chlorination and cyanide works. Gold won from own concentrates by chlorination, 1203 ounces; bullion from tailings (cyanide process), 2011 ounces 15 dwts. From own ore, 12,004 ounces. Gold from concentrates, purchased (by chlorination), 2092 ounces 18 dwts. Total, 14,096 ounces 18 dwts.

EXPENDITURE AND REVENUE.			Cost per ton.	
Crushed, 9215 tons.			Working Expenditure.	
			Cost per ton.	
Mining account (including mine maintenance) ...	£7,490 3 0		£0 16 3-08	
Milling account (including mill maintenance) ...	1,875 11 7		0 4 6-85	
General maintenance account ...	135 10 0		0 0 3-53	
General charges ...	1,181 14 2		0 2 6-77	
	£10,682 18 9		£1 3 2-23	
Expenditure on mine development, including main shaft	3,679 9 9		0 7 11-83	
Do on machinery, plant, and buildings ...	935 2 0		0 2 0-35	
	£15,297 10 6		£1 13 2-41	
Retraiment account:—				
Working expenses at cyanide and chlorination works ...	2,076 3 2			
Cost of concentrates purchased (including receiving) ...	£,450 14 3		£23,834 7 11	
Profit for month ...			29,004 10 0	
			£52,838 17 11	
Revenue.				
Gold account (mill), 8789 ounces 5 dwts. ...	£31,641 6 0			
Sundry revenue ...	800 0 0			
			£32,441 6 0	
Re-treatment account:—				
Gold account (tailings), 2011 ounces 15 dwts. ...	£6,669 5 0			
Gold account (own and purchased concentrates), 3295 ounces 18 dwts. ...	£13,595 12 0			
			20,264 17 0	
Plus amount received in excess of book entry for February gold ...			132 14 11	
			£52,838 17 11	

The sum of £11,108 7s. 7d. was expended on account of mill extension during the month.

Frontino and Bolivia Gold Mining Company.

The directors have received advices from the mines dated 10th April, also a letter from Messrs. Restrepo, dated 15th April. It will be seen that the consequences of the revolution have occasioned a considerable drop in produce without a corresponding reduction in expenses. The statement for the month of March is as follows:—2007 tons produced, bar gold 2042 ounces. Tributaries' gold produced bar gold 136 ounces. Total, 2178 ounces. Also 35,744 lbs. of sulphurets, valued at £287 10s. 4d. Estimated value of the gold and sulphurets, £4882 13s. 7d. Cost at the mines, Medellin and in London, £4424 18s. 5d. Estimated excess of returns, £457 15s. 2d. Owing to the several delays caused by the late revolution in Colombia, the general meeting of shareholders usually held in June cannot, on this occasion, be held until July.

— We understand that the JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY (LIMITED) are shipping £100,000 of specie to Johannesburg by this mail.

— The NUNSDYDROG COMPANY (LIMITED) has sold the gold obtained during the month of April last, which realised £11,784 19s. 2d.

— The OOREGUM GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold obtained in April for £90,977 2s. 11d.

— The CHAMPION REEF GOLD MINING COMPANY OF INDIA (LIMITED) has sold the gold produced in April for £21,562 6s. 7d.

BANQUET TO MR. ALBERT F. CALVERT.

MR. ALBERT F. CALVERT, whose name both as author and journalist is so prominently associated with the late rapid development of West Australia, was entertained by his friends to a banquet given in his honour at the Imperial Institute, on Tuesday evening.

Sir MALCOLM FRASER, K.C.M.G., Agent-General for Western Australia, presided; and amongst those who supported him were Lord Granville Gordon, Sir Charles Cranford, Sir Frederick Abel, Major-General Sir W. G. Davies, K.C.S.I., Sir Spencer Todd, General De la Fosse, Lieut.-General Wilkinson, Sir Somers Vine, Colonel Nicolson, Colonel Englede, Lieut.-Colonel Frederick Henderson, Mr. G. C. Levey, C.M.G., Mr. L. V. Langtree, Captain Troup, Captain Arnold, Mr. E. M. Euan Smith, Mr. W. C. Punchard, and Mr. Herbert B. Rendall.

On the cards of invitation the occasion was described as a "West-alian Dinner," and a distinctive stamp and colour was given to it by a liberal use of the black swan as an ornamental feature. The banquet, as might have been anticipated, was a very sumptuous one, and its setting was a work of high art and taste. Messrs. Lyons and Co. had drawn largely upon their decorative resources to do honour to the guest of the evening, and the result was a highly creditable achievement in the way of elegance and beauty of design. Massive silver fruit-stands, interwoven with a perfect web of flowers, ran the length of the tables, while at the top of the room, behind the seat of presidency, were two swans, wrought in charming flowers of a golden hue. The musical arrangements were on the same high level of excellence. A selection of orchestral music was given by a string band of the Royal Horse Artillery, and a knot of artists of great ability and finish of style furnished the vocal music of the evening.

Before passing to the toast lists the CHAIRMAN read a number of letters of regret from gentlemen prevented by various causes from being present, among whom were:—The Right Hon. Sir George Grey, K.C.B.; Dato Sri Amar d'Raja Abdul Rahman, C.M.G., Prime Minister to the Sultan of Johore; Sir Saul Samuel, C.M.G., C.B., Agent-General for New South Wales; Hon. Duncan Gillies, Agent-General for Victoria; Hon. Thomas Playford, Agent-General for South Australia; Hon. Sir Westby Percival, K.C.M.G., Agent-General for New Zealand; Sir Robert Herbert, G.C.B., Acting Agent-General for Tasmania; Lord Donoughmore, Lord Ashburnham, Sir Francis Evans, Mr. S. Yardley, C.M.G.; Major-General Sim, Major-General Shaw Stewart, Lieut.-Col. Tabor, R.A.; Messrs. J. S. Halloran, F. L. McClintock, F. A. Thompson, William Madden, Herbert W. Bond, Douglas Sladen, Oliver J. Trinder, R. C. Hare, Chas. Bethell, and Geo. M. Inglis. Sir William Robinson, Governor of Western Australia wrote:—"I feel honoured by the invitation to be present at the dinner to Mr. Calvert, but, as I think I mentioned, I have a long-standing dinner engagement for the 4th June, which will make it impossible for me to attend. Mr. Calvert's confidence and practical interest in Western Australia have done so much to bring the resources of West Australia to the notice of the English public, that, if only on that account, I regret very much my inability to be present." Sir Richard Garth wrote:—"If I were able to dine out at all at a public dinner I would most gratefully accept your kind invitation to do honour to Mr. Calvert on June 4. I have been reading his books on West Australia with the greatest interest, and I am sure he deserves the best thanks of that great colony, as well as of all true Englishmen for the exertions which he has made, and is making to develop its magnificent resources."

The usual loyal toasts were honoured with great cordiality. The CHAIRMAN, in submitting the toast of the evening, "Our Guest," said that the distinguished company present was assembled to do honour to their esteemed friend, Mr. Calvert. (Applause.) As English representative in the Government of the colony, he felt sure that in proposing the toast of his health he should have with him the good wishes and sympathies of the colonists themselves. (Hear, hear.) Mr. Calvert's visit to the colony, which took place many years ago, was prompted by a belief—perhaps by an intuitive belief—in the future of the colony, and ever since then he had taken a great interest in its future. (Applause.) In his admirably-printed *Review* he had persistently advocated the claims of the country as a gold-producing centre, pointing out what results, in his opinion, would follow the researches and explorations of the travellers in the colony, among whom he himself took a first rank. West Australian now was only, so to speak, at the bottom of the hill. Of this he had assured himself, and he spoke as a resident of 20 years in the colony. About two years before he returned to the mother country—in 1890—the first gold field was proclaimed by Act of Parliament, and since then gold discoveries had followed one another in rapid succession. It was not for him to describe in detail the history of the development of the gold industry in the colony; this would be found exhaustively treated in Mr. Calvert's *West Australian Review*. He might, however, mention that heretofore the great difficulty had been in providing means of transport and machinery. This was now being successfully combated, and before the end of the present year two of the principal gold fields in the colony would be in direct communication with the chief ports, while transport would, in all probability, soon fall to one-tenth of what it formerly was. (Applause.) Already, working with the most primitive appliances, gold to the value of £2,000,000 had been extracted in the colony, and with improved communication he believed the output would reach ten times that amount. (Applause.) The gold was there, and it only required capital to extract it. Mr. Calvert was a member of a family which had distinguished itself in the past in the development of other countries, and by his writings and addresses to different learned societies he had brought Western Australia very much to the front in this country. (Applause.) In evidence of the manner in which Mr. Calvert's services were appreciated, he was commissioned to ask of Mr. Calvert the acceptance of a service of plate, on the behalf of his many friends who had subscribed it. (Loud applause.)

The toast was received with musical honours. The plate presented to Mr. Calvert bore the following inscription:—

Presented to
ALBERT FREDERICK CALVERT,
At a banquet held on the 4th day of June, 1895,
At the Imperial Institute,
In recognition of his valuable and practical services towards the development and advancement of the colony of Western Australia during the past five years.

Mr. CALVERT, in replying, expressed his deep acknowledgment of the kindness which had prompted the magnificence with which he had been entertained. It was a great pleasure to him to know that his efforts had not been entirely in vain, and he should always remember the present occasion as one of the happiest occurrences in his life. West Australia, whose claims he had endeavoured in an humble way to advocate, was rapidly progressing, despite the efforts of those who were jealous of her prosperity, and were doing their best to hinder her. When he first became connected with Western Australia, gold mining there was practically unknown. The total return at that time for one year was barely 300 ounces. In 1894 the return increased to over 200,000 ounces, and it was expected that the return for the present year would exceed double that amount. (Applause.) The discovery of gold in Western Australia would be the means of advancing and developing other industries, and, with the right men at the head of affairs, he considered that the future of the colony was assured. (Applause.) Mr. Calvert concluded by again expressing his sincere acknowledgment of the kindness of his friends as reflected in the magnificence of the banquet and of the presentation.

The remaining toast was that of "The Chairman," which was cordially honoured, and suitably acknowledged.

DALZIEL'S NEWS (LIMITED).—To-day (Saturday, June 8) the general offices of this company will be removed to 15, Moorgate-street, E.O.

C. PASS & SON (Limited), BRISTOL,
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The buyer pays no fees whatever, and there is no incentive to
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 interests in such may be sold or money obtained for development work.
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 dents, foremen, miners, millmen, assayers and others connected
 with the mining industry on application, furnishing their references
 and so forth.—Cable Address, "CHAPIN," San Francisco.

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 interest in it held or exercised, by any mine owner, speculator,
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 dealing agency.

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 literary contributions should be addressed to "THE EDITOR." All matter
 intended for insertion must be written on one side of the paper only. The
 return of rejected manuscripts cannot be guaranteed. The Editor invites
 correspondence and items of news or information from readers in all parts
 of the World.

TO SUBSCRIBERS.—The Annual Subscription to **THE MINING**
JOURNAL, including postage to any part of the United Kingdom, is £1 4s.
 Abroad, £1 8s. payable half-yearly in advance. It can be purchased at all
 Railway Bookstalls and Newsagents throughout the United Kingdom for 6d.

TO ADVERTISERS.—The following is an abbreviated Scale of Charges for
 Advertising:—Companies' Prospectuses, £12 12s. per column, or £20
 per page; Companies' or Legal Announcements, 9d. per line, with a Mini-
 mum charge of 7s. 6d.; Sales by Auction, Publications, For Sale, Wanted,
 &c., &c., 6d. per line with a Minimum charge of 4s.

Displayed (Trade) Advertisements of 2 inches in depth (or more), Single
 Column measure, will be inserted at the following rates:—For 52 inser-
 tions 2s. 6d. per insertion for each inch in depth; for 25 insertions 3s.
 per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion
 for each inch in depth. Terms for special positions and contracts may be
 had on application.

ADVERTISEMENTS (which should in all cases be sent direct to
 THE BUSINESS MANAGER) can now be received for the forthcoming issue of
 THE MINING JOURNAL, RAILWAY AND COMMERCIAL
 GAZETTE, on FRIDAY, at 19, FINCH LANE, E.C., up till 6 p.m., and
 at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.

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LONDON: JUNE 8, 1895.

MINE SAMPLING.

THE readers of the prospectuses of mining companies, of
 which there are at present no lack, are familiar with the
 phrase that "samples taken from the mine have been
 assayed by Messrs. So-and-So, and have yielded" so many ounces
 or pennyweights to the ton, as the case may be. Now, the name
 of the assayer is a guarantee that the samples submitted to him
 contained no more and no less than the amount certified. It is,
 however, in no sense a guarantee that the samples so tested
 represent the actual average value of the lode. This latter
 depends for its accuracy not only upon the sampler, the con-
 ditions under which the samples were taken, but also upon the
 quantity of the sample, and whether it was taken from a heap
 of ore already mined and accessible outside the mine, or from
 the lode itself as standing and exposed in the workings. Now, the
 sampling of a heap of ore is of itself a difficult process, but with
 care and the exercise of patient skill, judgment, and supervision
 on behalf of the sampler, and the absence of interested parties,
 a tolerably correct idea of its average mineral contents can be
 arrived at, and is, indeed, a common occurrence amongst
 mineral merchants, who keep men and appliances especially for
 this work. In the mining and smelting districts of America
 mills are erected solely for this purpose, and the whole process
 is automatic and mechanical. The ore is crushed in bulk—
 that is, in quantities of from 50 tons upwards—and as in the

process of sampling its quantity is reduced, great care is taken
 to prevent any tampering with its quality until, at last, a finely-
 crushed sample of a few pounds in weight is obtained, which
 accurately represents, by its mineral contents, that of the total
 amount operated upon. In short, it is a recognised rule that,
 unless the ore is thus treated in a sampling mill erected for the
 purpose at great expense, a correct idea of its value cannot
 possibly be obtained. In spite of all this, we are brought face
 to face with presumably competent men, who, in the course of
 an hour's ramble through a mine, knock off a stone here and
 there, and so pretend that they have procured an average
 sample of a mass of ore, amounting to many thousands of tons.
 The idea that such an haphazard way of doing business can
 afford any reliable data is, to us, so preposterous that we have
 long ago ceased to place any confidence whatever in the results
 so obtained. They are, in short, as likely to show on the one
 hand that the mine is too poor to work, as they are, on the
 other, to prove that it is a perfect Eldorado. Only by a most
 improbable concurrence of circumstances can they possibly give
 an accurate estimate of the value of the lode. Apart from the
 treatment of a bulk sample of several tons in a sampling mill,
 there is only one reliable method of ascertaining the commercial
 value of the ore—and that is, by milling a large quantity of it. If
 there is no mill on the spot, it is far wiser, and in the end cheaper,
 to go to the expense of conveying the ore to a neighbouring mill
 than to risk the expenditure of public money on results obtained
 by crude, imperfect, and unreliable methods. In the case of a
 mine with a mill already at work, the duty is simplified; as if it
 is not advisable to accept the results obtained by past opera-
 tions, it is a comparatively easy matter to clean out the mill,
 and put through a hundred tons or so obtained from various
 parts of the workings. In the case of gold ores where Govern-
 ment returns of the bullion obtained in the past are usually
 available, it is not impossible to confirm the number of tons
 said to have been crushed in order to obtain that amount by
 measurements of the stopes, levels, and shafts from which the
 ore was abstracted, and so obtain the average yield per ton
 upon which it would be fair to base an estimate for the future.
 If these returns are available, and can be utilised for the pur-
 pose, it would be manifestly absurd to neglect or ignore them;
 and yet we have known of an expert under such conditions
 ignoring the past, and the milling returns actually obtained for
 several consecutive years up to the very date of his examination,
 and basing his opinion, to a large extent, upon a sample of a
 hundredweight or so of the ore obtained during a hurried ex-
 amination, with the curious result that while his sample showed
 that there was no gold in the ore being treated, the actual
 milling returns for the same time yielded considerably over
 half an ounce to the ton.

In every well-managed mine, the process of sampling is practi-
 cally a continuous one, for in order to arrive at the difference
 between the amount of gold actually contained in the ore and
 that extracted from it by the milling operations, in order to
 ascertain the amount of loss, a careful and systematic sampling
 of the crushed ore, and also of the tailings, is a part of the
 routine of the day's work. This process is very clearly described
 in a paper read on April 21 last by Mr. A. C. CLAUDET, before the
 Institute of Mining Engineers. When dealing with the sampling
 of the ores and tailings at the Mesquite del Oro Gold Mine
 (State of Zacatecas, Mexico), he said that "as a general rule it
 is found that the gold extracted, added to that left in the tail-
 ings, approximates pretty closely to the assay of the ore before
 entering the batteries," in fact, as we understand, there is rarely
 a difference of 5 per cent. between the two. This proves that
 the method of sampling is nearly perfect, even though it is not
 an automatic one, but is effected by taking a couple of shovel-
 fuls of the crushed ore every two hours, just previous to its enter-
 ing the feed hoppers. An iron bin is fixed between each head of
 five stamps and the sample is put into this, making four shovel-
 fuls for each 10 head of stamps per two hours. At the end of
 each shift of twelve hours the bin is emptied, its contents well
 mixed and quartered-down, the final sample from each 10 heads
 weighing about 20 lbs. The whole of the battery samples are
 mixed together in the assay office, crushed down to the size of
 peas, well mixed and again quartered-down until reduced to an
 amount of about 2 lbs., which is the representative battery
 sample for the shift. A portion of this is assayed, and
 a portion kept to be mixed with all the other
 samples taken during a month's run so as to form the sample of
 the mineral crushed in the month. In like manner, a cupful of
 tailings from each battery is taken every two hours, and when
 dried forms the tailings sample, from which, again, a portion is
 taken to make the monthly sample. It is very evident that,
 if it requires a careful and long-continued process like the above
 to arrive at the average value of the ore, it is practically im-
 possible for the cleverest expert to obtain even approximate
 results by any less carefully-conducted operation; while to
 expect to do so by merely dipping a shovel into an ore-bin is a
 farce, and is as likely to yield as valuable an idea of the con-
 tents thereof as the dipping of one's hand into a lucky-bag at
 a bazaar. Enough has been said to prove that, wherever
 possible, bulk samples only should be dealt with, and can alone
 give fairly accurate results. It will, however, sometimes happen
 that there are no means of handling the quantity necessary,
 and for many reasons it may be necessary to arrive at approxi-
 mate results by simpler means, such as by sampling an ore
 heap and assaying the sample. The process seems simple, but
 it necessitates the cutting of a trench straight through the ore
 heap, the reducing by hand to the size of macadam, or under,
 and the quartering of the large sample so obtained. The
 reduced sample must now be crushed down still finer, well
 mixed and quartered down again until the amount is reduced
 to 20 pounds or so of ore. This may be still further reduced,
 but great precautions must be taken to prevent its being
 tampered with, as the insertion of a few grains of gold by any
 of the well-known dodges would vitiate the results.

The sampling of a mine itself is a long process, and will entail

the cutting-across of the face of the lode at regular and frequent intervals, the careful collection of the whole of the mineral so obtained, and the reduction of its bulk afterwards by the same system of crushing and quartering-down, as before. If the ore occurs in rich shoots, then the samples from them should be kept separate from those of the poor ones, so that the extent and value of each may be known. Some experts say in their reports that "after picking out all pieces of visible gold the sample assayed," &c., but if the sample has been fairly taken it seems just as absurd to us to pick out the gold because it is visible, as it would be to take out the sterile pieces of quartz. In both cases the results would be unreliable as indications of the value of the ore. The sampling of a mine is by no means to be lightly undertaken; it is a most serious matter, and will require patient care and occupy many days; but seeing that the expenditure of large sums of money depends upon the results, we would enforce an opinion that the work should be entrusted only to well-qualified men, and that they should be prepared to go minutely into the whole question, and spend whatever time on the spot which may be necessary to obtain reliable results.

BAYLEY'S REWARD MINES.

THE above is the general and convenient title we give to Bayley's Reward Claim and Bayley's No. 1 South respectively, the two mines in Western Australia upon which a great deal depends. The fame of the latter colony had its origin at the same moment as Bayley's Reward, for until we were made acquainted with the phenomenal richness of this mine, we knew but little of the gold wealth of Western Australia. Thus is Bayley's the pioneer mine of the colony, and upon its welfare and prosperity much is dependent. Indeed, many have gone so far as to say that the future of Westralia is bound up with this mine, but this is absurd. It is safe to say, however, that the operations at this mine are watched with keen interest, for it is argued that development here will prove whether or not the riches of the Coolgardie district extend in depth, or merely exist on the surface. Much consternation was caused some two or three months ago when it became known that the ore in the mine decreased in value the lower they went, and it is almost safe to say that the public have not yet recovered from the effect. At any rate, since that time the shares have not been regarded with especial favour. Bearing all these things in mind, a greater interest is attached to the reports of the directors which have just been received by mail, and which were presented at the ordinary general meetings of the companies, held in Melbourne in the last week in April. Dealing, first, with Bayley's Reward Claim, the directors are unable to lay much information before us of a very encouraging kind. During the six months with which the report deals, gold was won to the value of £59,344, and of this sum £32,000 was distributed in dividends, and £2400 added to the reserve fund. Since the mine was opened in March, 1893, gold has been obtained to the value of £190,836, of which £126,600 has been paid in dividends. Of course, these are large sums, quite sufficient to satisfy the most avaricious. But all this has been taken from a comparatively shallow depth, and experience, so far, goes to show that on the surface Western Australia is phenomenally rich. What we want is evidence of its permanence, and this is not furnished us by the report before us. It is significant, and by no means encouraging, to be told that "no rich shoots of gold have been exposed equal to those that were worked in the last half-year." It is to be regretted that the cost of working is so high a sum. We make it out at a little over £5, excluding apparently management and depreciation, and of this water comes to as much as 10s.—a figure which in many parts of the world, defrays the cost of mining and milling. Therefore, to make a profit, the stone must yield from 1 ounce to 1½ ounce to the ton. We hope, however, that a great deal of this expense is due to development, and to the fact that they have been stocking very low-grade ore instead of treating it. Whether this will be maintained or no, the manager does not say. All the information he gives is that late results from the crushing of the ordinary stone have only been between 1 and 1½ ounce per ton, and all the encouragement he gives is that with sufficient and cheap water to enable the battery plant to be largely increased, this grade of stone will yield an excellent return. "It is, of course, possible that at any moment the development works may expose more rich shoots, such as those we had at the higher levels." Speaking of the excessive cost, we can hardly believe that it is due entirely to natural or physical difficulties, but rather to the small experience they have had in treating the ore under the special set of conditions existing out there; and, therefore, as experience is gained more substantial economies may be hoped for.

As for Bayley's Reward No. 1 South, the least said about this the better. The report of the directors is a document with which we are not at all pleased. What they say, and what they refrain from saying is alike significant and ingenious. "The yield of gold," they say, "has hitherto been disappointing, but the stone which has been crushed was taken from the full width of the reef, without any grading." Beyond this bare statement we are not told what the yield has been, which is an omission we cannot understand. Under the heading of "Stone Treated," the manager says:—"Crushing was commenced on January 18 and continued until February 5, when 545 ounces of gold were won from the mine," whatever that may mean, for we are not told what quantity was crushed to produce this. All that we can definitely learn from the accounts is that a loss of £1732 has been made. "Approximately there are now in the ore dumps 317 tons of stone," but this tells us nothing. We want to know its richness. Why does no valuation of it appear in the profit and loss account? Altogether the report is far from being a satisfactory one, to say the least of it.

NOTES AND COMMENTS.

AMONG the companies which have gravitated as by a natural law towards West Australia we may now reckon the New Gold Hill Company, a company which has acquired on remarkably easy terms a property situated well in the thick of the best gold mines of the Coolgardie district. Payment is to be made wholly in shares—a circumstance arguing favourably for the opinion entertained by the vendor company of the value of the property—and should the prospecting work carried on lead, as the Chairman considers highly improbable, to unsatisfactory results, the new-comers may gaily relinquish all connection with their late acquisition, with no severer loss than that of the few hundreds of pounds spent in proving or disproving the ground. Under these conditions the new company seems to start upon its career happily omened. Their loss cannot be great, and their gain may be large. All other considerations apart but that of the bare hazards of the case, and leaving entirely out of consideration the favourable reports which have been made upon the new property, the matter seems to stand favourably for New Gold Hill. It is well for the safety of the enterprise that the directors have contemplated the worst eventuality that could ensue, and have taken measures to minimise its effects. This done, the shareholders can contemplate the issue with calmness.

THE third half-yearly report of the Ivanhoe Gold Mining Company, which was presented at the half-yearly general meeting of the shareholders in Melbourne at the latter end of April, is especially interesting from the fact that the mine is situated at Hannan's Find, where are supposed to be some of the most promising gold properties in Western Australia. So far, it cannot be said that the information which the directors lay before us is very encouraging; but, of course, the explanation may be forthcoming that the time has not been sufficient to test the property. Really all the information that the directors give us is that great efforts have been made in developing the property and to overcome the difficulties which attend the opening up a mine in such a waterless country as Western Australia, which difficulties are much greater during the summer months than during the winter. It may be reasonably expected, however, that the worst period has been passed, and that the next six months may be productive of more rapid work and some tangible returns. The mine manager, whose report is attached to that of the directors, speaks hopefully of the future. He says—what would naturally be inferred—that the mine has been proved to be considerably more valuable than it was six months ago, and he trusts that further developments will show that its value is still greater than it is at present.

THE directors of the Nerbudda Coal and Iron Company (Limited) have just issued their 36th annual report, but there is little in it worthy of comment. As usual, it is short and to the point. The output of coal for the year 1894 was 19,348 tons, of which 16,585 tons were sales and 2647 tons colliery consumption leaving a balance of 116 tons stock on hand. The revenue account shows a profit of £71 7s. 3d., which has been carried to profit and loss, with the sum of £162 19s. 7d. standing to the credit of that account on the 31st December, 1893. Operations at the new field having been greatly advanced since the last general meeting, a further capital expenditure has been necessitated, and a call of 1s. a share has accordingly been made to provide this. As usual, the directors accompany their report with extracts from the annual report of the manager, who states that the past year has been a good one financially, the output having exceeded the average of the past five years. What is also encouraging is the fact that the demand for the company's coal considerably increased during the year from sources independent of railways. The manager speaks hopefully of the future prospects of the company, laying much stress upon the appearance at the new field. The progress made at the latter place, he says, settles any further doubts as to the future prospects of the company.

A MOVEMENT is on foot in Vancouver to give an extension to the mining and metallurgical industry as carried on there, and to take the necessary steps for the establishment of smelting and refining works. It is complained—and with some show of reason—that it is hardly satisfactory from the Canadian point of view that the silver and lead ores, when produced, should be taken straight away into the United States for reduction. A large part of the benefit which should legitimately follow from the growth of a mining industry within the Dominion is thus, it is contended, diverted elsewhere, leaving the colonists so much the poorer. According to one of the Canadian papers, the proposals for remedying the *status quo*, and fostering internal smelting and refining are twofold—first, an increase in the duty upon imported lead; and, secondly, the granting of a bonus upon every ton of lead smelted and refined within the borders of British Columbia. The arguments which extreme Free Traders would inevitably bring against such measures as are here indicated have been anticipated and confidently rebutted by some of the Vancouver writers, who call energetically upon the Federal and Provincial Governments to take up and legislate upon the matter. This is, of course, one side of a case, and it is not difficult to conceive the other. Doubts may very easily be entertained not only as to whether the artificial creation in this manner would ultimately tend to the benefit of the colony, but also even as to whether such a feat were possible by mere legislative enactment.

THERE is much speculation rife in South Australia as to whether the neglected country to the west of the colony contains reefs similar to those that have been discovered in West Australia; and the impression that prevails concerning this is treated at length in the editorial columns of the *South Australian Register*.

Various prospecting parties are either on their way westward, or are in course of formation, with a view to testing the country in this direction. The territory at present being examined by the prospectors lies between 150 and 200 miles due north of Streaky Bay, stretching from the Warburton Ranges up to Mount Mac Donall. The latter, as regards latitude, is nearly on a level with Hergott Springs, whilst the Warburton Ranges are on about the same latitude as Coolgardie. It is the intention of some enterprising explorers and prospectors to strike a line further to the north from the MacDonall ranges to Coolgardie, which, in respect to latitude, correspond with the Ashburton gold fields, whilst the Musgrave Ranges lie in a line with the Murchison. Up to the present there has not been anything like systematic prospecting in this region, but now that enterprise in this direction has been vigorously started, it is to be hoped that the inhabitants of South Australia and the world generally will, in the near future, be hearing of great discoveries.

THE *Adelaide Observer* discusses the very same question. It asks:—"Do the auriferous belts of Western Australia extend into South Australian territory?" This is a question, it says, which has of recent years been frequently asked, and discoveries to the eastward strengthen the view that a reply can be given in the affirmative. As encouraging evidence of this, they quote the fact of a prospector who has been pegging out leases 240 miles to the east of Murchison, and who reports having seen some of the finest prospecting ground in Australia. It has, indeed, been reported, the writer observes, that even further eastwards of the South Australian territory an isolated party has been dollying out gold in large quantities. On the northern side there appears to be some reason to believe that a connection exists between the reefing country of Western Australia and that of the northern territory, while in the midland district, the course of events seems to be bringing a similar link of connection much more nearly within the region of probability.

THE *Demerara Daily Chronicle* is of opinion that "during the next six months we are justified in anticipating, if a reasonable portion of the assurances from well-informed sources prove correct, a considerable forward movement in the colonial gold industry. We imagine that within the period we have mentioned, those local capitalists who have invested their money in the colony, may look for some result of the operations that have been conducted within the past two years, if not for a substantial dividend, at any rate for a definite indication of the manner in which the various properties are likely to justify the confidence which has been placed in them, when their quartz is submitted to the infallible test of the crushing mills." This is certainly encouraging news, and we sincerely hope that the forecasts of the writer of this article may come true. We have written so consistently of the gold wealth of British Guiana, and so persistently have we brought it to the notice of the mining public, that we are particularly gratified at such an announcement as this. It is not so very long ago that British Guiana was scarcely heard of; now the country is looked upon as one of the most promising gold fields in the world. We are pleased to say that this is due in a great measure to our efforts, for we have believed in the country from the first. We have not drawn attention to its gold wealth without, at the same time, laying emphasis upon the great drawbacks that hinder the successful prosecution of the industry. Nevertheless, as a result of our advocacy, many experts have proceeded, and are about to proceed, to this country, for there are evidences that a stay there will reward them for the inconveniences of a deadly climate.

Is Zululand a rich gold mining country? Now that the gold mining industry seems to be in an unexampled prosperous condition, and now that every quarter of the globe seems to be regarded with a new interest, this question has been asked by a great many, but no satisfactory answer has been forthcoming. The report of the Deputy-Commissioner of Mines for Zululand, Mr. J. Jervis Garrard, A.M.I.C.E., for the year 1894, gives us the information we all want. The conclusion we may form from what he says is that Zululand is not an altogether unpromising country. The gold occurs (1) in quartz veins, encased, for the most part, in highly-belted metamorphic schists (chloritic, hornblende, talcose, or micaceous) whose strike is always more or less east and west; (2) in basket beds, interstratified with sandstones and quartzites; (3) as an alluvial deposit. Speaking of the Nondweni field he says that here labour is cheap, and water abundant, workable coal being found not more 10 miles off. The reefs, for the most part, are encased conformably with the schists, the average strike of the formation being east and west, and the average dip about 50° northward. At the south-western end of the field occurs a considerable extent of auriferous basket beds, whose strike is nearly east and west, and dip about 22° southward. There have been proved to exist, he says 30 gold-bearing quartz reefs and leaders, running more or less parallel, in addition to the gold-bearing basket series. The gold contained is always "free" near the surface, and in the deepest shaft yet sunk (200 feet) it still continues free; whilst in another instance, at a depth of 130 feet, the reef becomes more pyritic, although still containing about 6 or 7 dwts. of free gold in addition to auriferous pyrites. Summing up, he states that the prospects of this field are most hopeful. Two properties, the Enterprise and the Sisters, have turned out over the plates some £3000 worth of gold.

SPEAKING of the Ulundi field, he remarks that this possesses similar characteristics to those exhibited in the formation of the Denny Dalton property, and requires deep working. This field is the only one in Zululand which can in any way be said to be connected with the Denny Dalton Mine. Should the basket beds of the latter prove payable, there is undoubtedly a vast field in Zululand on the same deposit, which is susceptible of being opened up without difficulty. Only two properties have been worked in the Melmoth division—viz., the Harwood and the Watkins. From the former 352 tons of quartz were

milled, yielding 314 ounces 12 dwts., or an average of 17 dwts. 21 grains per ton, excluding tailings. This means 34 square feet of reef extracted produced 1 ton of quartz, worth £3 5s. The cost of stoping was 6d. per square foot, and the total workings 1s. 8d. per square foot; "but this mine has been and is being picked in a most prejudicial manner." Quartz reefs extend for over two miles eastward, but no prospecting is being done beyond the limits of the Harewood, 1000 feet, and a large extent of gold-bearing ground is lying idle. Indeed, the working of this large property is beyond the financial resources of the Harewood Company. There is an alluvial portion here also, but although small rounded nuggets—one being 4 dwts. in weight—have been found, it has not yet been proved payable. On the Watkins property the reef is several feet in thickness, and from 110 tons of ore crushed 45 ounces 6 dwts. of gold were obtained, giving an average of 8½ dwts. to the ton. The above three are the principal and most promising of the districts in Zululand. On the others very little has been done, and the least said about them the better. From what has been said, it will be seen that Zululand is not a country to be despised and neglected.

THE official American statistics as to American coal production in 1894 (or, to speak more correctly, the preliminary statement prepared for the United States Geological Survey, and just issued) shows that the total product of coal of all kinds in 1894 was 170,853,085 short tons of 2000 pounds (or equivalent) to 152,547,330 long tons of 2240 lbs.), with a total value of \$186,154,604. In 1893 the total production was 182,352,774 short tons, valued at \$208,438,696. This shows a decrease in 1894 of 11,499,689 short tons, or a little more than 6 per cent., with a decrease in value of \$22,284,093, or more than 10 per cent. Comparisons of the average prices in 1894 with 1893 indicate a decline in nearly every State. The general average price for bituminous coal declined from 96 cents per ton in 1893 to 91 cents in 1894. Anthracite declined from \$1.59 to \$1.51, and the general average for coals of all descriptions receded from \$1.14 to \$1.09.

Out of the 28 States in which bituminous coal is produced commercially, 18 show a decreased product in 1894, and 10 had an increased output. The decrease in the output of bituminous coal is due, to a great extent, to the strike of the spring and summer of 1894, and those States in which an augmented production took place were not affected by the strike, either by remoteness or by lack of organisation among the men. Among the States not affected were Virginia, West Virginia, and Kansas. The Pocahontas Flat Top region in the Tazewell County, Virginia, was also not affected. Indeed the mines in that region were drawn upon more than usually for supplies. The scarcity of bituminous coal had also the effect of increasing the output of anthracite temporarily. But this special and transitory activity was not sufficient to counterbalance the generally lessened demand for anthracite from the manufacturing centres owing to trade depression. Indeed, the total Pennsylvania output of anthracite was less than in the year preceding by nearly 2,000,000 tons.

THE MINING MARKET.

FRIDAY EVENING.

More holiday markets. — Prices sagging away in the absence of business. — A dull tone at the close.

IF last week's transactions afforded little scope for descriptive writing, the course of the Mining Market since the Whituntide recess has been still more uninteresting. We have only to deal with four working days, and these the last four of a nineteen days' Account, a period which precedent and superstition invariably condemn to inaction and stupidity. A large number of the leading dealers have continued their holiday over the balance of the Account. The Mining Market in consequence, no less than several other corners of the House, has presented a most deserted appearance. It can hardly be said that there has been a genuine Market at any moment during the week. Small groups of Members either avowedly doing nothing, or indulging in mild practical jokes—always a sign of slack business—have taken the place of the former raging crowd. By way of illustration of the extreme stagnation, it may be put on record that a popular member, recognised as a licensed jester, on Thursday treated his fellow-members to a burlesque visit of an equally burlesque Shahzada. Of course, little games of this kind would have been out of the question two or three weeks ago. We left the Kaffir Circus with a hardening appearance, which seemed to indicate a probability of better prices on the resumption of business on Tuesday. This indication was momentarily confirmed, for although the volume of business was small enough, the tone was very firm when members reassembled, and changes in quotation were generally of a favourable character. It was noticed that buying orders were, in almost every case, for small parcels of shares, and were made by persons who intended to take the stock off the market. It is fair to assume that averaging operations were responsible for a goodly proportion of this small business. Quotations came over better from the Paris Bourse, and one or two of the heavier stocks scored substantial gains on the day. Land shares were steady with fractional improvements here and there. The West Australian market was goodish, and movements were generally favourable. Quiet strength characterised the Miscellaneous section, Broken Hills, Charters Towers, New Zealand, and Indian varieties, all notching little gains. On Wednesday, movements were irregular, prices evincing a disposition to sag away from sheer lack of support. These was no pressure to sell, and the alterations in quotation were generally quite disproportionate to the importance of the actual business. Land companies were more distinctly dull than Gold shares, whilst one or two investment companies, such as "Johnnies," gave evidence of distinct flatness. Indians were specially in demand, and Copper shares were steady, although Tintos lost ground. On Thursday the want of business was more distinctly felt than on the preceding days, and as prices began to sag away, the bears and gossip-mongers found it necessary to invent some pretext for the loss of stability in the market. Some few liquidations in connection with the Paris Settlement gave colour to the rumour of embarrassments on the Bourse.

At the same time, another story selected some Baltic men as the victims of the Kaffir slump, hinting that forced realisations would probably become necessary before the Settlement was done with. It is impossible to say whether any actual grounds exist in justification of such rumours as these. The probability is that there is no reason for alarm of any kind. To-day, after a weak opening, prices showed a slight disposition to recover, and in a few special instances notable improvements are marked on the day. Again, however, the business has been of a most meagre character, and the attitude of all parties is one of expectation. The carry-over in the Mining section will be arranged, as usual, to-morrow morning (Saturday), and a good deal will depend upon the position of the Account as then revealed.

South African Mines.

The alterations in quotation are nowhere important, there having been practically no incident to form a pretext for a big movement. The output at the Rand for the month of May has yet to be announced. Estimate places it very near to 200,000 ounces, and the returns from individual mines, which have thus far come to hand, are sufficiently good to justify sanguine expectations. For instance, the Wemmer return of 7114 ounces is 1582 ounces better than that for April. The George and May treatment shows 7 dwts. to the ton for May, as against 5 dwts. for April. The Transvaal Gold profit for May is £3050, as against £2360 for April. None of these announcements, however, have had the slightest direct effect upon prices. The offer of a few score shares, or a really unimportant, buying order, has been enough to move a quotation ½ to ¼ whilst in many cases prices have sagged away without the exchange of any shares whatever. The latest fluctuations have occurred in Rand Mines and City and Suburban. The former topped 30 on Wednesday, shed a full point on Thursday, and closing to-night at 28½ mark a loss of ½ on the week. City and Suburban, on the other hand, jumped on Tuesday nearly a point to 25½, and at 25½ to-night scores the full figure on the week. The May crushing shows a total of 9491 ounces. East Rands have fluctuated between 4½ and 4¾, closing just above the latter. St. Angolos are ½ better at 3½, whilst Comets are ½ down at 2½. The fractional gains scored by several Deep Level properties during Tuesday have all been subsequently lost. Nourse Deep has attracted rather more attention, having changed hands over 5. Slight losses are shown in most of the Barnat's stocks, ranging up to ½, in the case of Buffels at 5, Ginsberg at 1½, Glencairn at 3½, May Consolidated at 3, New Primrose at 6½, and Spes Bona at 2½. The Langlaagte Royal crushing for May at 2424 ounces shows an improvement of 229 ounces as compared with April, but the price is ½ down at 3½. The additional stamps are expected to be set to work at once, so that these shares ought to be worth attention at their reduced level. There has been some activity in Afrikaander, which were run up to 2 on Wednesday on the reported opening of a large body of high-grade ore, and the fact of a cyanide plant being in course of erection. The spurt was not maintained, but at 1½ the shares are ½ better on the week. Special demand has arisen to-day for Jumpers which are ½ up since the morning and ½ better on balance at 5½. Knight's, in which the bull speculation is weak are 1½ lower at 7½. Van Ryns are at a point down at 8½, but holders have not experienced heavy losses, as rights have been deducted during the week in respect of the allotment of five North Van Ryns for each 16 of the parent company's shares. The market has assessed these rights at 7½. Wemmers are in demand to-day, closing ½ better on balance at 11½. Small gains are shown in Stanhope at 1½, Wolhuter at 7, Steyne Estates at 1½, Simmer and Jack at 15, and Heriot at 11½. Some further recovery is shown in George and May at 1½. The direct cyanide treatment during May resulted in the extraction of 900 ounces from 2500 tons, which is distinctly better than the April return. Rumoured resumption of crushing at United Ivy raised the price ½ on Tuesday to 1½, but on Thursday there was a reaction of ½, which leaves the shares slightly slower at par. Modderfontein moved up ½ on Tuesday to 15½ and at 15 to-night shows a gain of ½. Bantjes, after some show of strength on Tuesday, gave way on Wednesday and Thursday, and closed half a point down at 2½. Salisbury are ½ lower at 4½, the May crushing showing only 2100 ounces, owing to the stoppage of the battery for eight days. Fluctuations in Randfontein have not been so severe as usual, 43s. and 40s. being the extreme limits. Some strength has been shown in Pardy's Ra ge at 11s., and Gold Coasts have been picked up round 8s. Spitzkops have been neglected at 1½, and the announcement of a 518 ounces crushing from 1800 tons has not helped Sutherland Reefs over 6d. Lisbons are 6d. easier at 5s. 9d., in spite of the production of 791 ounces of gold. Some weak holders have been shaken out of Tati Concessions, which are ½ easier at 3½. Chartered rose to 3½ buyers on Tuesday, and were offered this morning at 3½. The last price, 3½, shows a loss of ½ on the week. Consolidated Gold Fields, after being ½ down at 8½, close better at 8½. Mozambiques have lost 2s. at 27s., and Oceana ½ at 2½. Klerksdorp have again shown weakness, and mark a loss of 3s. at 16s. Henderson's are ½ lower at 3½. The announcement of a 50 per cent. dividend on South African Gold Trust did not satisfy the more sanguine bulls, and the price shows a loss of ½ at 7. Johannesburg Investments have been sold on less favourable dividend estimates, and leave off ½ lower at 3½, after touching 4½ on Tuesday. Diamond shares have suffered from the general lack of business. De Beers at 20½, Jagers at 9½, are each ½ lower on balance. Losses of 6d. are shown in Gordon's at 6s. 6d. and St. Augustines at 12s. 6d.

West Australians.

Business in this department has been on a very small scale, and in scarcely a single instance is a change to be found exceeding the smallest fraction. Londonderry's have sagged away to ½, under the idea that the insiders are still concealing information which it does not answer their purpose to disclose. Hampton Lands are ½ better at 4½, with the Plains the same fraction worse at 2½. Murchison Golds are steady at 7s. 6d., and Sherlows at 11s., whilst Murchison Gifts, after dipping to 3s. 9d., have recovered to 4s. 3d. Zapopans are 6d. easier at 6s. 6d., with Idaho the turn weaker at 5s. Bayley's Reward is 6d. down at 10s.

Miscellaneous.

Copper shares have again been in demand, a strong lead being taken by Rio Tintos, which have been largely bought on French account, and close at their best, ¼ up at 16½, after being 16½ this morning. Tharsis at 4½ are fractionally below the best. Mason and Barry are ½ down at 2½, but small gains are shown in Capes at 2½, Copiapo 2½, and Libiola at 3½. The Indian Gold mines have had some excellent returns for May, but the only improvement in price is ½ in Ooregum at 3½. This mine has now become the largest producer in the Mysore group, the May return showing 6046 ounces, as against the 5651 ounces of the Champion Reef. Some dullness has been observable in the New Zealand group, notably for Kapangas, 1s. easier at 9s. 6d. The Hauraki return of 2339 ounces of gold from picked ore from 117 tons, yielding an approximate profit of £2500 after paying

the extraneous expenses of the month, has not moved the shares, which remain at 10s. 6d. Waihi is ex the Waite-kauri rights, which are, roughly, valued at 2s. 6d. per share, otherwise the price is unchanged at 6½. Amongst Charters Towers' varieties, Mill's Day Dawn United have recovered their last week's slump, and Day Dawn are the turn harder at 11s., on a mining return of 886 ounces from 997 tons. Straits Developments have given way to-day, losing some ½ since the morning at 2½. In silver shares Broken Hills are ½ down at 2½, although on more than one occasion cable messages have reported buyers in Melbourne at a higher figure. Montanas are 1s. better at 13s. 6d., and La Yasca a like amount lower at 5s. 6d. Some business has been done in New Chums, which are slightly easier at 13s. 9d., whilst Bendigo have shed 9d. at 6s. 6d. There have been dealings in connection with a reconstruction scheme in Glenrocks, but generally movements in the rubbish division are unimportant.

Bri Mines.

The Cornish Market is very quiet, and the holidays intervening have further restricted business. The Tin statistics are disappointing, but speculators are by no means out of heart, and there seems no disposition to press shares on the market; whilst, on the other hand, a slight turn upwards in tin would induce buyers to come forward.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—
CONSOLS.—Monday, July 1.

STOCKS AND SHARES. JUNE.

Ticket Days.	Account Days.
Tuesday, June 11	Wednesday, June 12
Tuesday, June 25	Wednesday, June 26
Contango Days for South African Market:—	
Saturday, June 8	Saturday June 22

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

ALASKA TREADWELL.—A cablegram from Alaska announces the clean-up as follows:—"Period since last return, 30 days. Shipment of bullion, \$71,439. Tons of ore milled, 22,226; tons of sulphurets treated, 342. Of bullion there came from sulphurets, \$25,200. Estimated gross expenses for the period \$23,413."

BAYLEY'S REWARD, No. 1 SOUTH.—The following cable, dated the 6th inst., has been received by this company's London office from its head office at Melbourne:—"Fortnight's run, 188 ounces 225 tons."

BARRETT GOLD.—Gold return for May, 555 ounces (April 433 ounces). All working smoothly at mine and mill. Tram line connecting Bannister's reef with the mill and cyanide works being vigorously proceeded with.

BAYLEY'S REWARD CLAIM.—The following cable, dated the 7th inst., has been received by this company's London office from its head office at Melbourne:—"Average width of lode (380 feet) is 10 feet. The value of streak cannot yet be determined. The value of lode 12 dwts. per ton, exclusive of streak."

BONNIE DUNDEE.—The directors have received the following cablegram from Charters Towers:—"No. 1 north level driven 70 feet. The reef in the end of the level is 18 inches thick, worth 2 ounces per ton. No. 1 south level driven 60 feet. Thereef is 12 inches thick, worth 1 ounce per ton. The underlie shaft (No. 3) is down 105 feet from the surface. There is no reef in the bottom at present. There are 60 tons of quartz at grass."

BROKEN HILL PROPRIETARY.—The manager reports that for the week ending the 6th inst. 8650 tons of ore were treated, yielding 598 tons of lead, containing 200,048 ounces silver, also 1648 tons treated by amalgamating and leaching plants, producing 18,635 ounces silver. The price of the shares in Melbourne is £2 5s. 6d. buyers.

BURMA RUBY MINES.—The returns for May received by telegram are as follows:—"For the fortnight ending 16th May 2700 loads washed, producing rubies valued at 5000 rupees, out-turn having been affected by breakdown in machinery. For the fortnight ending 31st May 4000 loads washed, producing rubies valued at 35,000 rupees."

CONSOLIDATED GOLD MINES OF WESTERN AUSTRALIA.—The secretary has received advices that the machinery for the Nicol Mines has arrived at Cossack, and the assistant mine manager, the machinery manager, and assistant have arrived at the mines.

CHIAPAS.—Cable received June 5:—"During May the concentrating mill ran 26 days. 1400 tons of ore were crushed, yielding 57 tons of concentrate. Commenced to stamp on May 28; stamps are running well."

CHAMPION REEF.—The directors have received a telegram from the mine, dated June 4, giving last month's return of gold as follows:—"3900 tons of quartz produced 5347 ounces of gold; 1150 tons of tailings produced 305 ounces of gold; total production for the month 5651 ounces of gold. Ten of the new 20 heads of stamps started."

CITY AND SUBURBAN.—Last month's crushing yielded 9491 ounces.

CUMBERLAND GOLD.—The directors have received the following cablegram from the mine:—"Tailings works recovered 494 ounces from 714 tons, at a cost of £380. The estimated value is £1000. There is no ore in sight.—Level No. 2. The stopes above level No. 4, the average width is 1 foot 6 inches. Intermediate level have struck ore 6 inches. Mill commenced running."

DON PEDRO.—A telegram received from mine dated Marianna, 5th inst., advises:—"Produce for month of May, 760 ounces.—86 ounces."—Official note: Storing commenced on May 17, so that the above return is for less than half-a-month.

DURBAN-RODEPOORT.—The following results for May have been received by cable:—"Quartz milled, 8275 tons; 60 stamps; 29 days; 3866 ounces; tailings treated, 6875; 29 days; 1972 ounces; total, 5838 ounces."

DAY DAWN BLOCK AND WYNDHAM.—The directors have received the following cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight ending 1st inst.:—"Tons crushed, 997; yield of gold, 888 ounces; approximate value, £3050; fortnight's expenses, £1683."

DARIEN GOLD.—The directors have received a cablegram from their manager at Cana stating that the 10 stamp mill has started running through low grade ore.

ELKHORN.—"Bullion produced in the mill for the week ending June 1, 8700 ounces."

FORBES REEF.—A telegram has been received from the mines stating that the result for the month of May is 180 ounces of gold

FRIAS SILVER MINES.—The following cablegram has been received from the mines:—"Estimated returns for May £4500; profit for May over £1400." In the above return silver is valued at 33d. per ounce (fine silver).

GEORGE AND MAY.—The following cable has been received by the Zambia Exploring Company (Limited) from Messrs. Robert Williams and Co., of Johannesburg:—"April returns—8000 tons, 624 ounces (nearly 5 dwts. per ton). May—2500 tons, 900 ounces."

GOLDEN HORSESHOE.—The following cable has been received from the resident engineer:—"Depth of shaft, 50 feet; assay value, 6 ounces per ton."

GOLD FIELDS OF MASHONALAND.—Cotopaxi Mine. The following cablegram has been received from Victoria, Mashonaland, announcing the result of the last month's crushing at the above mine:—"During the month mill worked 23 days, crushed 610 tons, yielded 311 ounces of gold."

GEM OF CUE.—Telegram, dated Cue, June 4:—"New development is opening up splendidly. Rich quartz is coming in in face of drive. The gold-bearing vein can be traced for a long distance. The gold quartz is very free. No base metals present."

GOLDEN HORSESHOE.—A cable to hand states:—"Depth of shaft 50 feet, assay value 6 ounces per ton."

HANNAN'S REWARD.—The following cablegram has been received from the manager at the mines, dated 3rd inst.:—"Refer to our cable May 10; separate reefs. The lode runs north and south. The width of reef is 40 feet, 3 dwts. 2 ounces per ton. Developments promise well."

HAURAKI.—The directors have received the following information from the manager, viz.:—"Total amount crushed is 117 tons; picked specimens, 6 dwts. 99 lbs.; ounces of gold, 2339; approximate profit, £5500 after paying extraneous expenses for month. Waiting company's stamps 70 tons. The tunnel is in 345 feet crosscut at the 160 driven 15 feet. Have intersected reef, and broken specimens 6 lbs. weight; too soon to form an opinion, await further developments."

HOLCOMB VALLEY.—The manager has cabled as follows:—"Expect to begin washing not later than 10th day of June; shovel in the gravel."

HENRY NOURSE.—May crushing, 30 days' work, 2228 tons, 1638 ounces; tailings 1800 tons, 661 ounces.

ISLE OF MAN.—The secretary has sold 100 tons of this company's ore at £9 2s. 6d. per ton.

JUBILEE.—Result of last month's crushing of 4395 tons yielded 2217 ounces of gold, and from tailings 407 ounces.

JACKSON GOLD FIELDS.—The following cablegram has been received from the company's manager at the mine:—"Am in possession of Amador Queen Mine, School (House Mine) and Amador Gold Mine, together with 60 stamp mill (and) 10 stamp mill; machinery including all plant. Machinery complete in every way. Will start working Amador Queen Mine immediately. I feel sure it will be a lucrative venture."

KAPANGA.—The directors have received the following telegram from the manager, viz.:—"The crosscut has been driven 24 feet. We are getting a little gold from the stopes. Am much pleased with the appearance of the core from the diamond drill. It is composed of quartz heavily charged with iron pyrites at the depth of 132 feet. We have crushed 50 tons of quartz, yielding 70 ounces of gold. The prospects are encouraging at the 800."

KOFFYFONTEIN MINES.—A cable received from this company's mine states that 3150 carats were recovered during May.

LISBON-BERLYN.—A cable has been received from the manager, giving the following results for the month of May:—"Milled, 2240 tons (of 2000 lbs.); recovered, 126 ounces, tailings treated by cyanide, 2100 tons (of 2000 lbs.); recovered, 685 ounces; total recovered, 791 ounces."

LANGLAAGTE ROYAL.—Production for May, 2424 ounces.

MARBELLA IRON ORE.—Output since mines were reopened on 17th April, 1839 tons.

MYMORE GOLD.—The directors have received a telegram from the mine giving the return of gold for the month of May as follows:—"5200 tons of quartz produced 4570 ounces of gold; 2906 tons of tailings produced 546 ounces of gold; 1716 tons of tailings (cyanide process) produced 337 ounces of gold; total production for the month 5453 ounces of gold."

MONTANA.—By cablegram from the mine the directors are informed that the total output for May was 3420 tons of ore, which contained gold, 2410 ounces, and silver, 45,480 ounces. The estimated realisable value of the same is \$75,400.—Expenditure. Working expenses on revenue account, \$33,800; outlay on developments, \$10,700; extraneous expenses, including insurance, \$2500; machinery, including new pump for No. 1 shaft, \$14,300, \$61,300; net result, \$14,100. The trial of the equity suit, referred to in the directors' report of March 4, resulted in a verdict in favour of the company.

MOUNT MORGAN (Queensland).—Results for the month of May:—"Tons chlorinated 6929, gold returned 9832 ounces."

MYMORE WEST AND MYMORE-WYNAAD CONSOLIDATED.—Tank Block. The mining manager reports by telegram on the 31st May as follows:—"The mill ran 590 hours, and crushed 395 tons of ore, which yielded 284 ounces of gold."

MACATE.—The following cable has been received from the mine:—"12 days' run 111 tons 91 ounces, value £210."

MATABELELAND DEVELOPMENT.—Owners of the Chartered Company's largest mineral grant south of the Zambesi report that samples from the 30 feet level of a shaft on the Peacock Reef on their Mashonaland area, situated on the Umwesi river, assayed 2 ounces 18 dwts. 5 grains per ton of 2240 lbs.

MESQUITAL DEL ORO.—The following cablegram, giving the result of the May mill-run, has been received from the mine:—"53 stamps ran 630 hours (26 days 6 hours); quantity of ore crushed 2,854 tons; bullion produced at clean-up 714 ounces; value about £2,500; also copper bar value about £64."

MOUNT LEYSHON.—The Mount Leyshon (Limited) have received the following cablegram, dated 7th inst., from their manager at Charters Towers, giving the fortnightly crushing:—"1600 tons crushed, 200 ounces gold; 40 stamps mill ran 11 days; loss, £125."

NEW CLEWER ESTATE.—Results for May:—"From mill working 26 days crushed 1950 tons, yielding 718 ounces of gold. From cyanide works, treated 1225 tons, yielding 1031 ounces of gold; total yield, 1749 ounces of gold; total value, £4095; estimated profit for month, £800."

NINE REEFS.—The directors have received a telegram from the mine giving the result of the May crushing as follows:—"371 tons milled yielded 205 ounces of gold."

NUNDYDROOG.—The directors have received a telegram from the mine giving the return of gold for the month of May as follows:—"2775 tons of quartz produced 3062 ounces of gold; 640 tons of tailings produced 116 ounces of gold; total production for the month, 3178 ounces of gold."

OOREGUM.—The directors have received a telegram from the mine, dated June 3, giving last month's return of gold as follows:—"4321 tons of quartz produced 5032 ounces of gold; 5002 tons of tailings produced 1104 ounces of gold; total production for the month, 6046 ounces of gold."

ORION.—Last month's crushing yielded 3550 ounces of gold. **ROODEPOORT DEEP LEVEL.**—During the month of April 591 feet have been driven, the reef continues as usual, and the shipment of the battery has been completed.

ROODEPOORT UNITED MAIN REEF.—May crushing 3481 ounces, 6270 tons; cyanide 1118 ounces, profit for month £812.

ROTHERY BLOCK.—A cable from Johannesburg, dated May 31, says:—"Have discovered another reef eastern boundary, panning 12 to 20 dwts. per ton. The mine has a most favourable aspect."

SALISBURY.—Last month's crushing yielded 2100 ounces. Battery stopped eight days connecting new machinery.

SUTHERLAND REEF.—Cable received announcing crushing for the month of May as follows:—"20 stamps worked 720 hours crushed 1800 tons, yielding 518 ounces. The ore we are now milling has not been picked over."

ST. JOHN DEL REY.—The following telegram has been received from Mr. Chalmers:—"Produce for the month of May 30,000 oits., equal to 3458½ ounces troy; value, £11,625. Yield per ton 6.2 oits. (7146 ounce troy)."

SHEBA.—The following cablegram has been received from the general manager:—"200 tons of ore crushed yield 258 ounces; 3250 tons of tailings treated yield 1534 ounces. Cable repaired; damage caused by last February floods. 20 stamps started to work. Will most probably start 60 stamp mill two weeks."

SILVER KING.—The following cable has been received from Mr. Edwards, manager at the company's mines:—"May: Mill worked 29 days. Crushed 2200 tons. Produced 23,000 ounces silver. Shipped 24,000 ounces. Expenses, \$11,000. Bullion on hand 14,000 ounces. Estimated profit, \$4180."

TRANSVAAL GOLD EXPLORATION AND LAND.—The directors have received the following cablegram:—"Ore mined, 3375 tons; ore treated, 2600 tons; yielding, 1700 ounces; tailings treated, 1900 tons; yielding, 1125 ounces; total, 2825 ounces; value of bullion recovered, £7850; working costs, £4800. Ten stamps (Brown's Hill mill) idle one week for repairs."

TWIN LAKES PLACERS.—The manager cables the following results for May:—"Cubic yards of gravel washed, 120,000; square yards of bedrock exposed, 21,000; square yards of bedrock cleaned, 12,000; estimated value of bullion produced, \$5400."

VICTORIA GOLD MINING ASSOCIATION (Charters Towers).—The following cablegram was received on the 3rd inst.:—"335 tons crushed, 870 ounces gold; fortnight's crushing."

WOLHUTER.—May crushing 1705 ounces, 3840 tons; tailings 695 ounces.

Gold Fields of Mysore (Limited).

The following circular has been sent to the shareholders:—"The erection of the new 20 head battery of stamps has been completed. Some experimental crushings have been made, and the mine manager reports that the mill and all machinery connected therewith work well. These stamps will, it is estimated, be competent to crush about 1000 tons of quartz per month. The results of the trials made show that the ore from the particular lode tested is of a refractory character, and the amalgamated plates fail to extract the gold contained. Special treatment is, therefore, necessary, and the directors believe that the cyanide process now in operation at the Mysore Gold Mining Company's mines will be well adapted for the treatment of this class of ore. Arrangements have been made for a trial in bulk at that company's works of some of the ore, it having been abundantly proved that gold in payable quantities exists in the quartz. Shareholders will be glad to hear that active negotiations are going on with regard to the sale of sections of the company's property. Provisional arrangements have been made for the sale of part of the Oriental block to the Oriental Gold Mining Company of India (Limited), and arrangements are in progress for the sale of part of the West Balaghat block. Enquiries are also being made with a view to the purchase of a further part of the company's ground."

—The YERRAKONDA GOLD MINING COMPANY (LIMITED) has sold the gold obtained in April for £126 6s. 4d.

—The NINE REEFS COMPANY (LIMITED) has sold the gold obtained in April for £766 0s. 2d.

—The MYMORE REEFS (KANGUNDY) COMPANY (LIMITED) has sold the gold obtained in April for £487 3s. 3d.

—The directors of the SOUTH AFRICAN GOLD TRUST (LIMITED) announce the payment on July 1 next of an interim dividend on the company's ordinary shares at the rate of 50 per cent. per annum for the half-year ending June 30.

—A special general meeting of shareholders in the ROODEPOORT UNITED MAIN REEF GOLD MINING COMPANY (LIMITED) will be held at Johannesburg on July 17 next for the purpose of deciding on a proposal to increase the capital of the company.

NICKEL-STEEL.—The following is a translation of an extract from *La Metallurgie* of June 5:—"Visit of the President of the Republic to the Commentary Fourchambault Works. The President commenced his inspection in the buildings of the old forge, constructed in 1820. His attention was attracted by a fine plate bearing the following inscription: "May 31, 1895. Félix Faure, President of the Republic, visited Fourchambault Iron Works." This plate was cast at the Imply Steel Works (under the management of the Fourchambault directors) in nickel-steel of the same composition as the gunmetal which is one of the newest and most interesting specialities of these works. Much admiration was also shown for a nickel-steel cannon, intended for the National Foundry, at Bourges, and for a piston, also made of nickel-steel, forged and completed at the Imply Steel Works, and intended for a high-pressure engine for a torpedo boat, built in the yard of Messrs. Normand, at Havre. The remarkable resonance of these pieces and their splendid polish struck everyone present, and suitably illustrated the perfection recently brought about in this important manufacture, which so deeply concerns the trade and our national defence."

NEW ISSUE.

THE ORIENTAL GOLD MINING COMPANY (LIMITED).

The capital of this new company is £187,500, in 137,500 shares of £1 each. It has been formed for the purpose of acquiring from the Gold Fields of Mysore (Limited), part of the Oriental Block, situated in the Colar Gold Fields of India, together with the mineral rights comprised in an area of about 213 acres, and of working and developing the auriferous lodes therein. "The property," says the prospectus, "which is of an average length of 2343 feet on the line of lode, by 3960 feet in width, contains several gold-bearing lodes, the outcrops of which may be traced at intervals in this and neighbouring blocks for some thousands of feet in length, and are indicated by more or less extensive runs of ancient workings. Two of these lodes have been extensively prospected by the Gold Fields of Mysore (Limited) with satisfactory results." The influential firm of Messrs John Taylor and Sons will be the managers of the company, and Sir Charles Tennant, Bart., the Chairman.

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, JUNE 7.

Copper

OPENED after the holidays with business at considerably higher prices, and the usual manipulations were afoot with a view to counteract any momentary flatness, but this was done, apparently, with less confidence on the following day, and was afterwards ceased, the result being that values declined to the extent of 17s. 6d. from the highest figure of the week. The G.M.B. market opened on Tuesday firm at £43 15s. and £43 16s. 3d. three months, and was further stimulated by the unexpectedly good statistics, showing an improvement of over 500 tons for the last fortnight of May, three months being successively treated at £43 18s. 9d., £44, and £44 2s. 6d., whilst early prompts realised £43 15s. Wednesday, however, was marked by a reaction, which took the value back to £43 5s. s.c. and £43 13s. 9d. three months. The turnover for the day amounted to about 1250 tons. On Thursday cash touched £43 1s. 3d., and three months was done from £43 13s. 9d. down to £43 5s. To-day, after transactions in spot at £42 18s. 9d. to £42 16s. 3d., and forward at £43 6s. 3d. to £43 2s. 6d., the market closed dull at £42 16s. 3d. to £42 17s. 6d. s.c., and £43 3s. 9d. to £43 5s. three months. A great many works still remain closed, whilst others have only partially resumed work, and this, of course, greatly checks business in consumers' copper. Manufactured copper is in only moderate demand, both for home and for India, American advices continue firm, although the shipments thence to Europe seem to be rather on the increase again.

Tin

The statistics for May reveals an increase of nearly 1300 tons. This article opened dull, and at lower values, and was further depressed by persistent sales to £63 12s. 6d. s.c. on Thursday. Business was done later in s.c. at £63 10s., and in three months at £64 2s. 6d. to £64, and to-day there was a dull market, with transactions at £63 7s. 6d., and £63 5s. for spot and £63 12s. 6d. for forward, the close being quiet at £63 5s. to £63 7s. 6d. s.c., and £63 12s. 6d. to £63 15s. three months. In the Dutch market the course of values has likewise been towards a lower level, Billiton having opened on Tuesday at f.39½ spot, and f.39½ three months, and touched on Wednesday f.39 and f.39½ respectively. Since which the value has undergone no further alteration. Banca was quoted this morning at f.39½.

Fig Iron

Scotch shipments last week were advised as 7724 tons, as against 8339 tons during the corresponding week of 1894. Scotch warrants were done in Glasgow at 43s. 3d. to 43s. 6d. on Tuesday, 43s. 5d. on Wednesday, up to 43s. 7d. on Thursday, and 43s. 5d. and 43s. 6d. on Friday, closing at 43s. 7d. sellers. Hematite opened at 43s. 9d., and closed 43s. 6d., the respective figures for Middlesbrough being 35s. 3d. and 35s.

Lead

was very firm at the outset, soft foreign selling at £10 10s., and the tendency remains firm at the close at £10 8s. 9d. to £10 10s. soft foreign, £10 11s. 3d. to £10 12s. 6d. English.

Spelter

has been quite steady throughout with ordinaries at £14 17s. 6d., and specials at £15, though the trade is very quiet at the moment.

Antimony

remains firm at £31 10s. to £32.

Quicksilver

is unchanged at £7 10s. firsts and £7 8s. seconds.

The following are to-night's (June 7) prices of metals:—

Copper.			
	£ s. d.		£ s. d.
Tough cake and ingot	46 0 0	Sheet	46 10 0
Best selected	46 15 0	Electrolytic Copper	47 5 0
Sheet	46 5 0	Sheet and sheathing	53 0 0
Flat bottoms	56 0 0	Flat bottoms	56 0 0
Chill bars	42 17 6	Good merchantable, spot, & 3 months respectively	43 3 0
Copper tubes, seamless	—		0 0 7½
Alloys.			
BRASS: Wire	—	Sheet (solid drawn)	0 0 6½
Sheet	—	Sheet	0 0 5½
PROSPER BRONZE: Alloys II.	—		78 0 0
" " III. or	—	Cog Wheel Brand	81 0 0
" " VII.	—		83 0 0
" " XI.	—		78 0 0
" " Vulcan brand Al	—		72 0 0
DURO METAL	—		73 0 0
BULL'S METAL	—		65 0 0
Ferrobronze (Vivian's).			
Ingot	0 0 5½		—
Ordinary sheets, plates, bolts and bars	0 0 6½		—
Screw bolts and nuts	0 0 8		—
Pump rods, plain	0 0 7		—
" finished	0 0 10		—
DELTA METAL: No. 4 (per ton)	—		—
Sheet and plates (per lb.)	—		—
Bars, round, square, flat (per lb.)	—		—
" hexagon (per lb.)	—		—
Tin.			
English, ingots, f.o.b.	67 6 0		67 15 0
" bars	68 5 0		68 15 0
" refined	68 5 0		69 15 0
Straits, spot and 3 months respectively	61 5 0		63 12 6
Australian spot, and three months respectively	64 0 0		64 7 6
" (in Holland)	65 12 6		65 15 0
TIN PLATES: Charcoal, best quality	0 14 0		0 16 6
" ordinary	0 10 9		0 13 3
" Coke, best quality	0 9 9		0 10 8
" ordinary	—		0 9 3
These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per doz more.			
Iron.			
Fig. G.M.B. f.o.b. Clyde, spot	—		2 3 7
" Scotch pig, No. 1 Gartsherrie	—		2 10 4
" " Coltness	—		2 8 0
" " Clyde	—		2 5 3
" " Govan	—		4 17 6
Bars, Welsh, f.o.b. Wales	—		0 6 0
Plates	—		0 6 0
Bars, Staffordshire, at works	—		4 17 6
Sheet	—		0 6 0
Plates	—		0 6 0
Hoops	—		6 10 0
Ship plates, Middlesbrough	—		4 12 6
Street: English spring	—		42 0 0
" cast	—		4 15 0
Rails at works, according to section	—		3 10 0
Lead.			
Spanish or soft foreign	10 8 9		10 10 0
English pig, common	10 11 3		10 12 6
" L.B.	—		11 0 0
" sheet	—		11 10 0
" bar lead	—		11 10 0
" pipe	—		12 0 0
" red	—		12 15 0
" white	—		14 0 0
" patent shot	—		14 10 0
Spelter.			
Silesian ordinary brands	—		14 17 6
" special brands	—		15 0 0
English swanes	—		15 10 0
Sheet Zinc	13 0 0		13 5 0
Antimony.			
Antimony	31 10 0		32 0 0
Quicksilver.			
Flasks, 75 lbs. warrants	7 8 0		7 10 0
Ore, c.i.f., U.K. ports	—		—
1st quality, 50 per cent. and upwards	0 0 10		0 0 11
2nd " 47 per cent. to 50 per cent.	0 0 9		0 0 10
3rd " 40 " 47 per cent.	0 0 7½		0 0 9
Aluminium.			
98-99½ per cent. (guaranteed 98 per cent. min.) in ingots (3 cwt. lots)	—		0 1 7
do do (1 ton lots)	—		0 1 4
Nickel.			
99-99½ per cent. guaranteed	—		0 1 3

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—A, Antimony; Ar, Arsenic; B, Bismuth; Br, Bromine; C, Copper; D, Diamond; G, Gold; I, Iron; L, Lead; M, Manganese; N, Nitrates; P, Phosphates; Q, Quicksilver; R, Rubi; S, Silver; St, Silver-lead; Sul, Sulphur; T, Tin; and Z, Zinc. * In the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; 1 in the "Head Office" column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and 1, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name	Closing Price, June 7, 1895	Closing Price, May 31, 1895	Am't. of Share	Latest Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Head Office
Blue Hills .....CT	15/ 30/	15/ 20/	£ s. d.	2/- May '81	£ s. d.	5,353	Cornwall	Camborne.
Botalack .....T	3/ 3/	3/ 3/	51 4 6	—	1,880	1,880	Cornwall	St. Just.
Carn Brea .....T	2 1/2 3/	2 1/2 3/	32 8 5	2/6 Dec. '93	8,000	8,000	Cornwall	Carn Brea.
Cook's Kitchen .....T	5/ 10/-	5/ 10/-	35 15 10	—	4,900	4,900	Cornwall	Camborne.
Devon Ganton CA	par 1/4 pm.	par 1/4 pm.	0 12 6	—	25,000	25,000	Tavistock	8, Finsbury circus.
Devon Gt. Cons. CA	1 1/4 1 3/4	1 1/4 1 3/4	2 10 0	1/6 May '95	10,240	10,240	Devon	8, Finsbury circus.
Doleath .....T	48 50	49 51	9 12 6	12/6 Apr. '94	4,700	4,700	Cornwall	Camborne.
Drakewalls GYM	—	—	0 2 0	—	81,856	81,856	Cornwall	Dashwood House.
East Halkyn .....T	20/- 25/-	20/ 25/	0 12 6	—	12,000	12,000	Flintshire	67, Lord St., Liverpool.
East Pool .....T	5 1/2 6 1/2	5 1/2 6 1/2	0 9 5	1/6 Sept. '94	6,400	6,400	Cornwall	Illogan.
Gawton .....CA	1 2	1 2	2 10 0	—	12,000	12,000	Devon	20, Great St. Helena.
Great Lacey .....CA	1 2	1 2	4 0 0	5/- Apr. '92	15,000	15,000	I. of Man	Douglas, Isle of Man.
Green Hurth .....L	1 1/8	1 1/8	0 19 0	—/6 June '89	32,000	32,000	Emberino	Newcastle.
Halkyn .....T	9 10	9 10	1 0 0	—	10,000	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain	8 1/2 10 1/2	8 1/2 10 1/2	10 0 0	4/- Mar. '95	10,000	10,000	Flintshire	Corn Ex. Cmb. Chester
Ile of Man .....L	3 1/2 4 1/2	3 1/2 4 1/2	5 0 0	1/6 Dec. '94	11,000	11,000	I. of Man	Chester.
Killfretth .....T	7 1/2 12 1/2	7 1/2 12 1/2	5 11 6	1/8 Nov. '94	5,000	5,000	Cornwall	Truro.
Leadhills .....T	15/ 20/	15/ 20/	6 0 0	3/- Sep. '91	20,000	20,000	Lanarksh.	30, Finsbury-circus.
Llanarmon .....T	par	par	1 0 0	—	11,990	11,990	Denbigh	8, Werburgh Chmbrs
Llanarmon .....T	par	par	1 0 0	—	3,790	3,790	Flintshire	Chester.
Levant .....CT	4 1/2 5	4 1/2 5	11 9 6	4/- Nov. '94	11,990	11,990	Cornwall	Penzance.
Miners .....T	—	—	5 0 0	1/3 Nov. '91	7,165	7,165	Cornwall	3, Gt. Queen-st., S.W.
North & Tude. LC	3 1/2 3 1/2	3 1/2 3 1/2	1 0 0	6 1/2 Feb. '91	9,000	9,000	Denbigh	Newcastle-on-Tyne.
New Mines .....T	—	—	10 18 0	—	48,875	48,875	Stumbold	Camborne.
North Hendre .....T	—	—	10 18 0	—	4,900	4,900	Cornwall	—
Par .....T	—	—	1 0 0	1/- Oct. '92	30,000	30,000	N. Wales...	6, Queen-street-place.
Phoenix United TC	1 1/2 2/-	1 1/2 2/-	1 0 0	1/- Mar. '90	11,854	11,854	Flintshire	11, Nwgt. st., Chester.
Polberro .....T	15/ 20/	15/ 20/	3 7 8	10 p.c. Sept. '91	18,000	18,000	Cornwall	Billiter sq. buildings
Rhosmor .....T	par	par	1 0 0	—	10,000	10,000	Flintshire	Liskeard.
Rhosmor .....T	par	par	1 0 0	—	18,000	18,000	Cornwall	37, Walbrook.
So. Condurrow TC	2 1/2 3/	2 1/2 3/	3 7 8	3/6 Apr. '93	6,123	6,123	Cornwall	Corn Ex. Cmb. Chester.
South Crofty TC	15/ 20/	15/ 20/	17 7 6	—	6,120	6,120	Cornwall	20, Great St. Helena
S. Frances Untd. T	10/ 15/	10/ 15/	2 7 6	—	6,000	6,000	Cornwall	Redruth.
South Halkyn .....T	par	par	1 0 0	—	10,000	10,000	Flintshire	8, Werburgh Chmbrs
Talacore .....T	par	par	1 0 0	—	30,000	30,000	Flintshire	St. Forgate-st., Chester
Tinoroff .....T	7 1/2 8	7 1/2 8	15 7 6	2/- Aug. '94	5,000	5,000	Cornwall	Carn Brea.
Wardale .....T	20/ 25/	20/ 25/	1 10 0	1/3 Oct. '90	60,000	60,000	Durham	32, Lombard-court.
West Frances .....T	2 1/2 3/	2 1/2 3/	17 7 6	2/- Dec. '94	8,000	8,000	Cornwall	Camborne.
West Kitty .....T	8 1/2 9	8 1/2 9	23 15 2	—	6,000	6,000	Cornwall	37, Walbrook.
Wheal Agar .....T	2 1/2 3/	2 1/2 3/	12 3 0	10/- Apr. '88	6,144	6,144	Cornwall	Redruth.
Wheal Basset .....TC	30/ 35/	30/ 35/	0 12 6	—	10,000	10,000	Cornwall	110, Cannon-st., E.C.
Wheal Friendly .....T	12 1/2 13	12 1/2 13	18 2 0	2/8 Nov. '94	6,000	6,000	Cornwall	7, Union-court, E.U.
Wheal Grenville .....T	2 1/2 3/	2 1/2 3/	4 5 6	3/- Mar. '88	8,900	8,900	Cornwall	Truro.
Wheal Kitty .....T	1 1/2 1 1/2	1 1/2 1 1/2	0 13 9	—	10,784	10,784	Cornwall	14, Broad-street.

AUSTRALIAN AND NEW ZEALAND MINES.

Abbot's .....G	11/3 13/9	11/3 13/9	1 0	—	0 17 6	67,000	M'Chelson	17, Old Broad-st.
Achilles Gld. Fld.	3 1/2 4	3 1/2 4	2 1/2	—	0 2 8	642,456	Pontyrry.	—
Adelaide Lamp G	13/9 16/3d	13/9 16/3	1 0	1/- May '95	1 0 0	100,000	N. S. Wales	4, 4, Throg. Avenue.
Assoc. Gold Mines	11/3 13/9	12/6 15/	1 0	—	1 0 0	375,000	Coalfields	20, Bucklebury.
Austrian .....G	15/ 20/	15/ 20/	1 0	—	2 0 0	50,000	Murchison	23, College Hill, E.C.
Australasian .....G	3 1/2 4/-	3 1/2 3/9	1 0	—/8 Mar. '92	1 0 0	210,000	Queensland	6, Queen-st. place
Australian .....C	—	—	20 0	—	7 7 6	18,315	S. Austral.	18, Old Jewry Chmbrs
Aus. Bro. Hill Con.	3 1/2 3/8	3 1/2 3/8	1 0	1/- June '91	1 0 0	537,138	N. S. Wales	Dashwood House.
Baker's Creek .....G	9 1/2 10/	9 1/2 10/	1 0	1/5 May '95	0 17 6	10,000	N. S. Wales	Hillgrove, N. S. Wales
Bayley's Reward G	9 1/2 10/	9 1/2 10/	1 0	—/4 Dec. '94	0 10 0	480,000	Coalfields	F. B. H. R. M. M. St.
Big Blow .....G	9 1/2 10/	9 1/2 10/	1 0	—	0 15 0	10,000	Coalfields	W. H. H. M. M. St.
Blackett's Claim G	9 1/2 10/	9 1/2 10/	1 0	—	1 0 0	10,000	Coalfields	W. H. H. M. M. St.
Blue Spur & G. G.	14/6 15/8	14/6 15/8	1 0	—	0 18 6	120,000	N. Zealand	3, Gt. St. Helena
Bonnie Dundee G	14/6 15/8	14/6 15/8	1 0	—	0 18 6	120,000	Queensland	3, Gracechurch-st.
Brilliant .....G	15/ 17/	15/ 17/	2 0	—/4 May '95	2 0 0	250,000	Queensland	3, Gracechurch-st.
Brilliant Block G	2 1/2 3/	13/15 21/3d	2 0	—/6 Apr. '95	2 0 0	250,000	Queensland	3, Gracechurch-st.
Brilliant, St. Geo.	1 1/2 1 1/2	1 1/2 1 1/2	0 10	6d. May '90	0 6 3	72,000	Queensland	3, Gracechurch-st.
Brit. Brok. Hill S	—	—	1 0	—	1 0 0	—	N. S. Wales	3, Gracechurch-st.
Brit. Broken Hill	—	—	0 8	—	0 8 0	—	N. S. Wales	3, Gracechurch-st.
Broken Hill Prop.	2 1/2 3 1/2	2 1/2 3 1/2	0 8	1/- Apr. '95	0 8 0	960,000	N. S. Wales	3, Gracechurch-st.
Cashman Bril.... G	3 1/2 4	3 1/2 4	1 0	—	1 0 0	60,000	Queensland	3, Gracechurch-st.
Carrington .....G	7/0 8/0	6 1/2 7 1/2	12/6	—	0 12 6	100,000	Queensland	3, Gracechurch-st.
Con. G. M. of W. A.	3 1/2 4	3 1/2 4	1 0	—	0 12 6	90,000	W. Austral.	14, Hill-st., Edinboro.
Coalfields .....G	—/9 1/-	—/9 1/-	0 2	—	0 0 6	40,000	Queensland	3, Gracechurch-st.
Coalfields (Shirley)	15/6 16/6	15/6 16/6	1 0	30 1/2 June '95	0 6 3	—	Queensland	3, Gracechurch-st.
Craven's Cal. ....G	3 1/2 4	3 1/2 4	0 6	—/3 June '94	0 4 8	100,000	Queensland	3, Gracechurch-st.
Crown Bayley's G	3 1/2 4 1/2 pm	3 1/2 4 1/2 pm	1 0	—	0 10 0	80,000	Queensland	3, Gracechurch-st.
Cumbrind (New) G	3 1/2 4	3 1/2 4	1 0	2/6 Dec. '87	0 19 0	184,190	Queensland	3, Gracechurch-st.
Day Dawn B. & W. G	10/ 11/	10/ 11/	1 0	—/6 Mar. '93	1 0 0	498,400	Queensland	3, Gracechurch-st.
Day Dawn P. O. G	5/6 6/6	6/6 6/6	1 0	—/6 Apr. '92	1 0 0	490,000	Queensland	3, Gracechurch-st.
Eaglehawk .....G	1 1/2 2/-	1 1/2 2/-	1 0	—	0 19 9	120,000	Victoria...	31, Lombard-st.
Empress Coal G. G	3 1/2 4 dis.	3 1/2 4 dis.	1 0	—	0 10 0	90,000	Coalfields	3, Gracechurch-st.
Eng. & Aus. Cop. Cu	3 1/2 4	3 1/2 4	2 0	2 1/2 1883	1 17 6	70,000	S. Austral.	126, Palmerston-bldgs
Frederick the Gt G	—	—	1 0	—	1 0 0	125,000	Victoria...	St. George's House.
Glenbrook .....G	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	1 0 0	225,000	N. Zealand	3, Gracechurch-st.
Goldconda .....G	18/9 21/3	18/9 21/3	1 0	—	0 10 0	68,088	Murchison	3, Gracechurch-st.
Gold Estates .....G	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 10 0	30,000	W. Austral.	42, Greenham House.
Great Boulder .....G	21/3 23/9	21/3 23/9	1 0	—	1 0 0	119,280	Yilgarn	3, Gracechurch-st.
Great Coolidge .....G	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 15 0	80,000	Queensland	3, Gracechurch-st.
Great Fingall Rls.	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	1 0 0	175,000	Kurnalpi	3, Gracechurch-st.
Golden Gate .....G	1 1/2 2/3	2/- 3/-	0 10	—	0 10 0	150,000	Queensland	3, Gracechurch-st.
Hampton Lands .....G	4 1/2 5	4 1/2 5	1 0	10/- Nov. '94	1 0 0	64,675	Queensland	3, Gracechurch-st.
Hampton Plains .....G	2 1/2 3/	2 1/2 3/	1 0	—	0 4 0	350,000	Queensland	3, Gracechurch-st.
Hampton Plains Ex	6 1/2 7 1/2	6 1/2 7 1/2	1 0	—	0 18 0	180,000	Queensland	3, Gracechurch-st.
Hannan's Brwn Hill	17/6 20/	1 1/2 1 1/2	1 0	—	1 0 0	65,000	Queensland	3, Gracechurch-st.
Hauraki .....G	10/ 11/	9 1/2 10 1/2	2 1/2	—	1 0 0	250,000	Queensland	3, Gracechurch-st.
Kaboonga .....G	2 1/2 3/	2 1/2 3/	0 10	—	0 9 9	500,000	Queensland	3, Gracechurch-st.
Kangaroo .....G	4 1/2 5	4 1/2 5	1 0	—	1 0 0	88,275	Queensland	3, Gracechurch-st.
Kangaroo .....G	9 1/2 10/	9 1/2 10/	1 0	—/6 Jan. '91	0 19 6	250,000	N. Zealand	3, Gracechurch-st.
Kilgobbin .....G	18/9 21/3	18/9 21/3	1 0	—	1 0 0	81,292	Queensland	3, Gracechurch-st.
Kinnella .....G	11/ 12/	11/ 12/	1 0	—	1 0 0	80,000	Queensland	3, Gracechurch-st.
Kurnalpi .....G	—	—	1 0	—	—	—	Queensland	3, Gracechurch-st.
Lady Loch .....G	3 1/2 4	3 1/2 4	1 0	—	0 10 0	70,000	Queensland	3, Gracechurch-st.
Lady Mary Amalg.	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 10 0	46,000	Murchison	3, Gracechurch-st.
Lindsay .....G	4 1/2 5	4 1/2 5	1 0	—	0 10 0	65,000	Queensland	3, Gracechurch-st.
Londonderry .....G	10/ 12/	11/3 12/3	1 0	—	1 0 0	467,000	Queensland	3, Gracechurch-st.
L. & W. Aust. Expl.	1 1/2 2	1 1/2 2	1 0	10 p.c. Dec. '94	1 0 0	100,000	W. Austral.	3, Gracechurch-st.
Maitland Cons. G	1 1/2 2	1 1/2 2	1 0	—	0 15 0	150,000	Murchison	3, Gracechurch-st.
Mawson's Reward G	15/ 17/6	15/ 17/6	1 0	—	0 15 0	200,000	Queensland	3, Gracechurch-st.
Mills' Day Dawn G	15/ 17/6	15/ 17/6	1 0	—/6 May '95	0 15 0	200,000	Queensland	3, Gracechurch-st.
Moanman .....G	8 1/2 9	8 1/2 9	1 0	—	1 0 0	58,235	N. S. Wales	3, Gracechurch-st.
Mt. Leyshon .....G	—	—	1 0	—/6 Dec. '90	1 0 0	187,989	Queensland	3, Gracechurch-st.
Mt. Morgan G	2 1/2 3/	2 1/2 3/	1 0	—/6 June '95	0 17 6	1,600,000	Queensland	3, Gracechurch-st.
Mount Zeehan SL	—/6 1/-	—/6 1/-	1 0	—	1 0 0	193,257	Tasmania	50, Lime-street.
N. Australian G. F.	19/- 20/-	19/ 20/	1 0	—	1 0 0	20,000	Queensland	3, Gracechurch-st.
New Queen .....G	7 1/2 9 1/2	7 1/2 9 1/2	1 0	—/6 June '95	0 19 6	188,915	Queensland	3, Gracechurch-st.
Nicol Mines .....G	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	1 0 0	15,000	Queensland	3, Gracechurch-st.
North Coolidge G	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 4 0	10,000	Queensland	3, Gracechurch-st.
N. Qld. M. Agency	1 1/2 1 1/2	1 1/2 1 1/2	1 0	2/6 Jan. '95	1 0 0	90,000	Queensland	3, Gracechurch-st.
Queen's Bldy Un.	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 12 6	75,000	Victoria...	3, Gracechurch-st.
Sam's Wld. of Nat.	3 1/2 4	3 1/2 4	1 0	—	0 15 0	200,000	N. Austral.	3, Gracechurch-st.
Scottish Australian	3 1/2 4	3 1/2 4	1 0	—/3 May '95	1 0 0	200,000	N. S. Wales	3, Gracechurch-st.
Victoria Associatn.	7 1/2 8 1/2	7 1/2 8 1/2	1 0	—/6 June '95	1 0 0	144,000	Queensland	3, Gracechurch-st.
Victory .....G	7 1/2 8 1/2	7 1/2 8 1/2	1 0	—/2 Mar. '94	1 0 0	150,000	Queensland	3, Gracechurch-st.
Walbi .....G	7 1/2 8 1/2	7 1/2 8 1/2	1 0	—/6 June '95	0 10 0	6,000	Crydun, N.Z.	3, Gracechurch-st.
Waratah .....G	7 1/2 8 1/2	7 1/2 8 1/2	1 0	—	0 10 0	6,000	N. S. Wales	3, Gracechurch-st.
Wentworth Exten.	4 1/2 5	4 1/2 5	0 8	—	0 5 0	178,828	N. S. Wales	3, Gracechurch-st.
Wentworth	13/9 16/3d	13/9 16/3	1 0	—	1 0 0	350,000	N. S. Wales	3, Gracechurch-st.
W. Argentine ....G	1 1/2 2/-	1 1/2 2/-	1 0	—	0 19 6	150,000	N. Zealand	3, Gracechurch-st.
W. Aust. G. Conces	1 1/2 1 1/2	1 1/2 1 1/2	1 0	20 1/2 May '95	0 15 0	17,500	W. Austral.	3, Gracechurch-st.
W. Aust. Exploring	1 1/2 1 1/2	1 1/2 1 1/2	1 0	—	0 15 0	200,000	W. Austral.	3, Gracechurch-st.
W. Australian G. F.	3 1/2 4	3 1/2 4	1 0	2/6 Dec. '94	1 0 0	65,000	W. Austral.	3, Gracechurch-st.
W. Aust. Mining	4 1/2 5	4 1/2 5	1 0	—	0 10 0	104,257	Queensland	3, Gracechurch-st.
W. Malina .....G	3 1/2 4	3 1/2 4	1 0	—	1 0 0	80,000	Piikarra	3, Gracechurch-st.
White Feather ...G	1 1/2 2	1 1/2 2	1 0	—	1 0 0	80,000	N. S. Wales	3, Gracechurch-st.
Zapopan .....G	6 1/2 7	6 1/2 7	1 0	—/4 May '95	1 0 0	25,000	N. S. Wales	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—/4 May '95	1 0 0	60,000	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	2 1/2 May '95	0 2 6	12,000	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
Zeehan Montfana S	—	—	1 0	—	—	—	Tasmania	3, Gracechurch-st.
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SOUTH AND CENTRAL AMERICAN MINES—(Continued).

AFRICAN MINES (Continued)

AFRICAN MINES.

REPORTS FROM THE MINES

BRITISH MINES.

WEST KIFTY.—St. Agnes, Scorrier, Cornwall, June 6: The 94 fathom level west is worth £8 per fathom. The 84 fathom level west is worth £14 per fathom. The 60 fathom level west, the lode is small, yielding stones of tin. We hope to have an improvement

in this end shortly. The 60 fathom level east south of slide is worth £12 per fathom. The No. 2 rise in back of the 60 east of crosscut is worth £12 per fathom. The 60 fathom level west south of slide is worth £12 per fathom. The 55 fathom level east south of slide is worth £7 per fathom. The 50 fathom level west south of slide is worth £8 per fathom. The stopes and tribute pitches continue to yield the usual quantity of tin. The men at Thomas's shaft sunk 6 fathoms 3 feet 5 inches last month. This shaft is down 32 fathoms below the deep adit. (Signed) Joel Hooper, John Williams.

DEVON GREAT CONSOLS.—Wm. Clemo, June 6: Watson's engine shaft. In the 172 fathom level east the lode is 4 feet wide, and is producing a little copper ore and muddle ore. In the 148 fathom level east the lode is promising, and is yielding 2 tons of copper and muddle ore per fathom. The stopes are turning out good quantities of copper and muddle ore. We shall sample tomorrow 260 tons of copper ore for sale at Redruth on the 20th inst.

SOUTH CONDURROW.—June 5: The ground is moderately easy for working in the 40 end east of engine shaft, the lode is large and looks promising to improve, but at present is without tin value. The stopes in the back of the 40 are worth on an average £8 per fathom. The stopes in the back of the 60 east is worth £9 per fathom. (Signed) Wm. Rich, F. J. Rich.

WHEEL FRIENDLY.—St. Agnes, Cornwall, June 1: No. 1 winze sinking below the 10 fathom level east on the Pink lode is 4 fathoms deep and 4 feet wide, and producing copper, muddle, and tin. No. 2 winze, with the stopes east and west from it, is of the same character and value as stated in my last report, and produces about 28 lbs. of tin to the ton of stuff. The water has considerably fallen off recently, and operations on the floors can only be carried on slowly. In the course of the week I shall begin to burn and prepare a parcel of tin for sale. I think it would be advisable to begin cutting down the shaft immediately after the next setting day. (Signed) Charles Cole.

COLONIAL, INDIAN, AND FOREIGN.

BAYLEY'S REWARD CLAIM.—Mining report dated April 15: Main shaft. At the 380 feet level have made good progress in opening out the chamber, which will be completed during the coming week. Will then at once start driving east to intersect the lode. 220 feet level. The winze being sunk to connect the 280 feet level is at present 34 feet from base, being 3 feet for week. Lode still large and highly mineralised—100 feet level. Have resumed stoping in this portion of the mine about 20 feet south of Begelhole shaft. Lode from 6 to 7 feet wide, and of the most favourable appearance. Gordon shaft. South stopes, 50 feet level, during the past week has returned some very good stone, at times some very nice gold being seen. Reef about 3 feet wide. North stopes. Lode is 5 feet wide, and should judge fair battery stone. No. 1 intermediate stopes. Lode fully 6 feet wide, and yielding stone similar to the former. Cockshot shaft. Have started to open out drive north 50 feet below the upper level. Lode at present 3 feet wide, and very hard. Air shaft. North drive at present 80 feet from shaft being 3 feet for week. Lode 4 feet wide, from appearances should judge to be fair battery stone. Everard shaft. During the week have suspended driving the north drive in order to do some prospecting on the line of lode, slightly south of Ford's shaft. Not finding anything important, work again resumed in north drive. (Signed) W. H. Matthews.

BAYLEY'S REWARD No. 1 SOUTH.—Mining manager's report dated April 15: Main shaft. 170 feet level south drive is at present 20 feet from shaft. The lode shows no particular change beyond narrowing to about 4 feet wide. The stone is highly mineralised, but of the same hard nature, also the enclosing rock. 90 feet level. Winze yielding stone of very fair grade, gold being frequently seen fine, but in the solid rock. Width of reef at this point not yet ascertained. Stopes. Stopes south of the main shaft also returning stone which is being passed through the battery, apparently of fair value, gold from time to time being visible. North drive has been advanced 30 feet, full length being 83 feet from shaft. Lode averaging from 18 to 20 inches wide, exposing fine gold, which I consider payable. During the coming week it will be necessary to timber the greater portion of the drive, after which rising and opening out stopes in this portion of the mine will be carried out. Condenser. With the condenser at the battery engine we have now completed all improvements, and I am glad to say it is now as near perfect as possible, so that in future I anticipate that the consumption of water will be much less than hitherto. (Signed) W. H. Matthews.

BLACKETT'S CLAIM.—Cable received from Mr. Leech (the manager), dated Coolgardie, May 6: In crosscut on the 130 feet level the width of the lode is 12 feet. Progress slow, owing to rock becoming harder. Will be left for the present in abeyance. Have completed retimbering old shaft. Have already commenced to open up in order to connect with the south shaft. Vein maintains its size and value, and our mining prospects continue very favourable. As soon as anything is settled upon please cable me what is the proposed method of treatment, so as to prepare. I hope you will be able to choose dry crushing mill and cyanide process, as cannot suggest anything better under present conditions.

BRENNAN'S GOLD.—The following report has been received from the manager, Mr. John Daw, jun., dated Hangerood, May 30: Section 4. Fair progress is being made in the 400 feet level north, and the workings in connection therewith. The quartz is well impregnated with mineral and specks of gold have been seen. These workings are rapidly approaching No. 1 shaft which has from surface produced the best quartz in section. In the 300 feet level we have set contracts to rise to the winze sunk from the 200 feet level, and also to stopes north. The quartz is narrow, but often shows visible gold. We can say that all the points attacked show a gradual and encouraging improvement. Section 5. We have completed our survey of the upper workings, and shall send copy next week. We are also pushing the testing of the ground opened with all speed, and shall soon be able to report result. Lower workings. By the end of another week we shall have all ready to commence pumping. The small pump ordered a short time ago has arrived.

BRITISH BROKEN HILL.—Mining manager's report for the week ending April 21: Blackwood (No. 1) shaft. 240 feet level. East crosscut lengthened 6 feet, total length 36 feet, at which point it was stopped. An uprise has been started in drive on north end of shaft, which has risen 2 feet through sulphides mixed with quartz. Howell (No. 2) shaft. 300 feet level. North-east drive extended 18 feet, total distance 210 feet. This drive passed through eastern vein during the week from which a large quantity of water has since been flowing: face now in clean country. East crosscut was advanced 2 feet, total length 33 feet, and stopped. West crosscut extended 24 feet, total length 75 feet, and stopped. A south-west drive has been started off this crosscut on the sulphides, which has been driven 18 feet; face showing fair grade sulphide ore. We broke 5 tons sulphide ore, assaying 24 per cent. lead, 22 per cent., and 14 ounces silver per ton. 240 feet level have commenced a southerly drive off east crosscut down far north winze in sulphide lode, which has been driven 8 feet; face at present in a mixture of soft country sulphides and quartz, which is probably only an intrusive bar in the lode. 100 feet level. Uprise in far north stopes is now up eight sets, or about 19 feet above intermediate (75 feet), and reef still shows a lenticular lead ore. Marsh (No. 6) shaft, second level. East crosscut off north drive lengthened 4 feet, total 60 feet, and stopped as face shows country. Have started a party of tributors at two points on this level to break carbonate ore. Have been fossicking and sinking a winze on lode down winze stopes which has been sunk 4 feet, total depth 6 feet, bottom showing fair grade carbonate ore. We mined 16 tons, averaging 22 per cent. lead and 39 ounces silver per ton. Retailer's workings. The tributors have mined from lode down winze 19½ tons carbonates during the week, averaging 33 per cent. lead, and 27 ounces silver per ton. The week's assays vary. Carbonates from 17 per cent. to 46½ per cent. lead, and from 23 to 150 ounces silver per ton; sulphides from 7½ per cent. to 48 per cent. lead, 3·9 to 15 ounces silver, and 12·8 to 24·7 per cent. zinc per ton.

BROKEN HILL PROPRIETARY.—The manager reports that for the week ending the 30th ult. 9095 tons of ore were treated,

yielding 704 tons of lead, containing 162,175 ounces silver: also 1219 tons treated by amalgamating and leaching plants, producing 38,060 ounces silver. In addition to the usual weekly returns there has been produced during the half-year ending May 31, 2040 tons of matte, containing 521 tons of copper and 297,084 ounces silver. The price of the shares in Melbourne is £2 6s. buyers.

DARCY ESTATES.—Report dated April 27: Main shaft sunk 7 feet through hard diorite, total depth 369 feet. Portion 54. Drive from main shaft in 105 feet. Progress during the week 6 feet; still in very hard diorite.

DON PEDRO.—Maquina mine monthly report, April 30: Incline shaft repairs. These have been carried on very rapidly in fixing steel sets. Some places wood sets have to be fixed, where back laths have to be driven, but steel sets are fixed between; therefore, most of the shaft is in good condition. Adit. We have two natives repairing this, fixing back and side laths where required. Steel sets have to be fixed here also, which we consider to be permanent work. Explorations. Since the breakage occurred in the mine, and having a few men to spare, we put them in re-open Hilke's crosscut, with the intention to get into the old mine, where, without a doubt, paying mineral will be met with. 164 feet of the crosscut has been completed, and about 56 feet more will reach the payable mineral. As soon as this is reached we shall go down on the dip of lode. This incline will also answer for ventilation, as communication can be made with our present shaft. Produce. This has been derived from the stamps, and from the accumulated sand about the reduction department. No mineral has been taken from the mine, but we hope we shall be in full operation about the middle of May.

HAURAKI.—The directors have received the following information from the manager, viz.:—Total amount crushed is 117 tons, picked specimens 6 cwt. 99 lbs., ounces of gold 2339. Approximate profit £5500, after paying extraneous expenses for month. Waiting company's stamps, 70 tons. The tunnel is in 345 feet. Crosscut at the 160 driven 15 feet. Have intersected reef, and broken specimens 6 lbs. weight; too soon to form an opinion, await further developments.

HANNAN'S REWARD.—The manager reports for the week ending April 26: Wynne shaft has been sunk a further depth of 8½ feet, total to date 143½ feet, and timber has been put in for a further 40 feet. No. 1 level north crosscut has been sunk to a depth of 84 feet where a reef 4 inches wide of solid quartz was met with, dish prospects of which give 1 ounce per ton. No. 6 reef winze has been sunk to a depth of 80½ feet. The size of the reef is the same as last reported, and the gold contents 5½ ounces per ton. No. 2 reef winze has been sunk to a depth of 13 feet. The reef has improved in size, and is now nearly the full width of the face, quite 2 feet of stone, valued at 10 dwts. per ton.

MOUNT LYELL.—The London board have received the following report from the Melbourne board for the week ending April 17:—Surface prospecting shaft, hanging wall: This shaft has been sunk to a depth of 16 feet, timbered, and a windlass rigged; the sinking is in ore material, assaying well for gold and silver. North drive No. 3 tunnel: The face has been advanced 6 feet, total 128 feet, the hard rock alongside the pyrites wall has cut out, giving place to softer country. Indicator winze: The winze has been sunk 2 feet, total 93 feet. The pyrites keep up to their average value. North drive No. 4 tunnel: This drive has been advanced 6 feet, total 133 feet. There is no change. No. 1 rise, 50 feet level engine shaft. No. 4 tunnel: The rise has been put up 2 feet, total 34 feet. The country is still very hard. North drive, 100 feet level engine shaft. No. 4 tunnel: The face has been advanced 2 feet, total 115 feet 6 inches, the pyrites wall has turned back sharply to the right. South drive, 100 feet level, No. 2 shaft. No. 4 tunnel: This drive has been advanced 2 feet, total 23 feet. There is no change. No. 5 tunnel: The contractors have driven 4 feet, total 1007 feet, the country is a ferruginous schist containing a little native copper. Progress report for the week ending April 17: Main line Ragged Creek and limestone tramways completed and all ballasting finished. Abt siding: All piers of Queen River bridge erected and hope to complete bridge in fortnight, earthworks well advanced, and will be completed very shortly. Through tram ready for plat-laying. Haulage line: Earthworks from 56 chains to 20 chains, and bank engine site well advanced. Brick and sawmill plants running full time. Weather very good.

NEW PRIMROSE.—The manager reports May 11: This mine has established a record for April, both as to the costs of working and profit. The profit for the past month was £14,671, as against £15,221 for March, or an increase of £2450. Mining expenses were 12s. 11d. per ton, mining and milling together 17s. 1d. per ton, and the total costs (including development) 19s. 11d. per ton, which are the lowest figures we believe, that have yet been reached. The 160 stamp mill crushed 24,568 tons, giving a capacity of 53 tons per stamp per day. The mine itself is in an excellent position, the ore reserves in hand amounting to 240,000 tons, the value of which, by careful and systematic sampling, is put at 8 dwts. over the plates and 4½ dwts. from cyanide, the yield now being obtained. These enormous reserves, which practically represent money locked up, certainly justify the erection of a further 40 stamps, bringing the mill up to 200 head. We understand this question is now under the consideration of the board. A large part of the main reef is already being worked, but in the case of 40 new stamps being put up, the whole of the reef series from one end of the property to the other will be mined. Ore is being hauled from the May Deep mine at the rate of 400 tons per day. The profits for the last few months have been:—January £12,500, February £13,500, March £15,221, April £17,671. The profit for April represents a return of 78 per cent. on the capital of £280,000. With 200 stamps the profits should easily amount to £20,000 per month, and admit of the payment of dividends at the rate of at least 80 per cent. per annum. As an investment stock with improving prospects Primrose, therefore, would appear to be the pick of the list. Mr. Geo. Starr, the manager, is to be congratulated on the high position he has brought this property to.

OURO PRETO.—Estimated profit and loss account for three months ended March 31:—Passagem. 11,128 tons, 120,148 grammes. Raposo. 875 tons, 3258 grammes. Total 12,003 tons, 123,406 grammes, which realised £14,158. Passagem. 11,128 tons, 120,148 grammes, realised £13,768, equals £1 4s. 8d., contents of one ton 10,797 grammes. Total costs in Brazil £10,942. London expenses £500, total £11,442, equals £1 0s. 7d.; profit £2326, equals 4s. 2d. Raposo. 875 tons, 3258 grammes realised £390, equals 8s. 11d. Total costs in Brazil £696, equals 15s. 11d.; loss £306, equals 7s. Summary. Passagem (profit) £2326, Raposo (loss) £306, profit for three months to March, 1895, £2020, profit for previous six months to December, 1894, £4127, profit for nine months to March, 1895, £6147. From the above report must be deducted an amount sufficient to meet the redemption of, and interest on, the debentures, and the depreciation of the buildings, machinery, plant, &c. In the last letter received from the mines dated April 30, Mr. Gifford stated: I am very pleased to say that I have received a telegram from Captain Richards announcing the communication of the rise and winze in Mina Grande (Raposo Mine), so that for the month of May we shall be able to scope on that shoot, and may look for an improvement in the returns from that mine.

PESTARENA.—W. H. Trelease, T. H. Messa, dated June 3: 55 east on No. 1 lode. The average width of the lode is 40 centimetres, and occasionally patches of pyrites are met with. The 90 west is yielding 2 tons per fathom at 18 dwts. The 140 west on No. 5 lode has been suspended, and the men put to stopes at the 90 on No. 1 lode west. Stopes on Canter lode. At the 55 east the lode produces 5 tons per fathom at 1 ounce 5 dwts., and at the 120 east 4 tons at 18 dwts. On No. 1 lode. Two stopes at the 55 east yield 5 tons at 1 ounce 10 dwts, and 10 tons at 2 ounces respectively. At the 70 east, two stopes are yielding 10 tons at 1 ounce 10 dwts, and 6 tons at 2 ounces 10 dwts, respectively. A stopes at the 70 west gives 4 tons per fathom at 1 ounce, one at the 90 west 5 tons at 1 ounce, and another at the 90 east 8 tons at 15 dwts. Staboli. In

the crosscut west from Morghen adit a change has occurred in the dip of the rock, but the lode has not yet been reached. Kint Concession, Guja adit south, judging from the appearance of the present end, the Depaulis lode cannot be far distant. The Guja end east of branch is carrying a branch 20 centimetres wide, reaching nearly to the roof, where the ore widens to 30 centimetres of almost solid pyrites; present yield 2 tons per fathom at 1 ounce. The Guja end west on branch has improved, the branch being now 30 centimetres wide, and estimated to be worth 3 tons per fathom at 1 ounce 8 dwts. The Oro Seco crosscut south has intersected the lode, which is 1·20 metre wide, mixed throughout with fine pyrites, but insufficient to value. The object for which the crosscut was driven having been attained, it is now suspended. An end east from Guja, on the Kint lode, has been commenced to search for the ore-shoot, which has probably dipped to the west of the adit. Pozzone mine has been re-worked to a depth of 32 metres. Machinery. A new crank has been put on the pumping engine, otherwise there is nothing new to report.

QUEEN CROSS REEF.—Copy of manager's report for fortnight ending April 16: Since my last report, according to instructions, I took the men out of the crosscut and put on two shifts to repair the shaft, which I think we will finish this afternoon. During the time I was using the shaft for bailing water I let the two men in the shaft go into the crosscut, and they cut the formation last Saturday, but we have done nothing to it since. We have cleaned out the bottom of the shaft, and it is now ready for the contractors. Both parties of tributors are doing fairly well. Everything in connection with the mine is in good working order. A. Wookner.

SPITZKOP FARM.—The following are extracts from letter received from the mine dated 9th May:—It is my pleasing duty to inform your battery is again crushing full time. We commenced work after the slight alterations to tailings flumes on Monday morning at eight o'clock. All the machinery runs perfectly, and leaves little to be desired. Amalgam is making fairly on the plates, but it is too soon to judge as to the milling value of the ore; so far, I believe it to be quite up to my expectations. One of the plates is new, and until it becomes properly amalgamated it is not easy to judge. I shall be able to form a better opinion in a week's time, so far I am satisfied. The Pelton wheel gives every satisfaction, and is, of course, capable of driving a much greater number of stampers. Reef Hill hydraulic. Two monitors worked 61½ hours each hydraulic sluicing; good wash in the old channel. Note. 1800 tons of ore was stripped during the month of April.

SUNBURST.—The manager under date April 20th writes as follows:—The level being driven from the No. 1 East Sunburst has been extended 7 feet; the ground still looks favourable for coming on to stone. The reef in the No. 1 East Sunburst stopes looks particularly well, from 3 to 4 feet thick of fully 4 ounces stone. I hope we shall be able to come on to something of this kind. The tribute party on the old Sunburst reef have not yet begun to raise stone. They have a great deal of preliminary work to do and mallock to clear out of the drive before they can get properly to work.

VICTORIA AND QUEEN.—Copy of manager's report for fortnight ending April 17: Davies and party have driven 20 feet, making a total 35 feet on the Victoria and Caledonia reef. The reef is about 2 inches thick of a very fair quality stone. Emerson and party have driven the 442 level west a further distance of 19 feet, making a total from shaft 61 feet. Barret and party tributors No. 1 block west have a reef from 6 inches to 1 foot of heavy mineral stone. They have about 16 tons, and started to crush yesterday. Edwards and party, No. 2 block, have 32 tons, and have a reef from 1 to 2 feet of heavy mineral stone. Trevisis and party, No. 2 east, have a reef of about 6 inches of good quality stone. They have about 13 tons broken. Gannon and party have about 7 tons broken of fair quality stone. Champion has about 3 tons broken. Machinery and everything in connection with the mine is in good working order. R. Trevarthen.

VICTORY (Charters Towers).—Copy of manager's report, April 20: No. 1 shaft. Stopping Papuan reef on east side of underlie below No. 11 level. Average size of stone 10 inches, quality same as previously reported. Raised 70 tons. No. 2 shaft. 320 feet level extended west 12 feet, total 240 feet. Still in diorite. No. 1a. Rising and stoping on 12 inches fair quality. Stopes over intermediate levels between Nos. 1 and 2 average 15 inches, medium. No. 7 level. Reef in underhand stopes averages 10 inches, quality medium. Raised 75 tons. No. 3 shaft sunk 15 feet, total 30 feet. At 25 feet struck water, and had to stop sinking and timber shaft. Will be ready to start sinking with three shifts Monday next. Have engine on ground and placed, and erecting building over same.

WENTWORTH EXTENSION.—Report dated April 27: Carroll's shaft No. 1 west crosscut in 51 feet. Progress during the week, 12 feet; no change. East crosscut advanced 12 feet, total length, 68 feet, face still in diorite. Further trenching done. Main shaft sunk 10 feet.

YERRAK NDA.—Fortnightly report of Captain Scantlebury, dated May 15. Boreford shaft. This shaft has been sunk 8 feet, now 27 feet 6 inches below the 300 feet level. The lode is 7 feet wide, composed of quartz and arsenical pyrites, worth 5 dwts. of gold to the ton. Crosscut west 200 feet level north has been extended 17 feet, now 25 feet from the level. New engine shaft has been sunk 7 feet, now 190 feet from surface. South shaft has been sunk 13 feet, now 109 feet from surface. The lode is 4 feet wide, and showing good walls 2 feet 6 inches in dark blue quartz, worth 8 dwts. of gold per ton. The water is very quick, but I hope to get down a few feet more before fixing the pit work.

PILBARRA GOLD FIELDS (LIMITED).—The statutory general meeting of the shareholders in the Pilbarra Gold Fields (Limited) was held on Thursday, at Winchester House. Mr. Percy S. Bost, who presided, said the company had acquired, at present, five mining leases named the Bamboo Queen, the Reward Claim, the Caledonia, Bonnie Doon, and Prince Charlie. Each of these leases was six acres in extent, with the exception of the Bamboo Queen, which was 12 acres. All the leases had been transferred to the company, and now stood registered in its name. When the leases were taken over care was exercised to ascertain what had been done on the properties, and to acquire properties which had been developed. Most of them had had shafts sunk upon them, in some cases to a depth of 60 feet, and crushings had been made by the original holders which were extremely satisfactory, averaging from 2 ounces to 4 ounces, and in some cases 6 ounces to the ton, and that applied to some hundreds of tons. Mr. Herbert Peplow Pearce, one of the vendors of the original property, was selected as manager for the company, and the work had been pushed on with all possible speed. Sixty tons were crushed from the Bamboo Queen for 110 ounces. Developments had been proceeded with, and were opening up splendidly. The directors were determined not to put a mill up until they had ore in sight to keep it regularly employed for a long period; but there were three or four small mills on the field, which were private property, but where they could make crushings. At present there was difficulty in getting crushings made because of the amount of quartz being sent to these mills. It was the intention of the directors to acquire, carefully and judiciously, other properties and other interests and ventures which appeared to them to be good and sound; and in a new district, such as these gold fields, such undertakings were being continually brought forward. Everything, in fact, would be done to put the company on a paying footing. A vote of thanks to the Chairman concluded the proceedings.

The secretary of the Silver King Mining Company (Limited) notifies that Mr. S. H. Cox, partner in the firm of Messrs. Bainbridge, Seymour, and Co., mining engineers, has inspected and reported upon the company's mines at Calico (California) on behalf of his firm and of the firm of Messrs. Tapp and Landau. As the result of his report, Mr. Emerson Bainbridge and Messrs. Tapp and Landau have taken up and paid £8000 in cash for the shares agreed to be taken subject to Mr. Cox's report, and Mr. Cox has joined the board of directors of the company.

AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager reports by mail for the fortnight ended the 25th April: Block 96, 280 level east, prospecting drive No. 4 rise stopes, ditto No. 6 rise, driven 24 feet 6 inches; stoping continued.—East drive. A winze has been put down to a depth of 16 feet, and no improvement showing; driving has been resumed.—South stopes. Lode still carrying carbonate of iron, calcite, and quartz charged heavily with mundio; is small, but well-defined. No. 6 rise stoping to the west have broken into the workings of No. 4 rise. 280 level west driven 10 feet 6 inches, total 134 feet 6 inches. The lode formation here is widening, and showing a little galena in veins of iron. Incline No. 5 level east, driven 8 feet 6 inches, total 141 feet 6 inches. The lode here is widening and well-defined, carrying calcite and carbonate of iron.—No. 4 level east. Underhand stopes driven 7 feet. The lode is still narrowing, yielding a little galena and fahlers.—Note. The quantity of rock mined during this fortnight was 18-18 cubic feet.

CHIAPAS.—Mine report for fortnight ending April 30: Providencia Avar driven 5 feet 6 inches, total 252 feet 6 inches. Very poor, more of a quartz. Taylor main extension driven 6 feet, total 623 feet. No change. Santa Fé Hill No. 3 driven 1 foot 6 inches, total 66 feet 6 inches. Total last fortnight reported 65 feet and not 59 feet. Pine creek No. 2 driven 12 feet, total 61 feet. No change. Owing to shortness of miners we have been unable to keep development in full work.—Extraction. Old Providencia, 421 tons, ore good in quality; Santa Fé Hill, 63 tons, ore good in quality; Santa Fé stopes, 322 tons, ore good in quality; Taylor No. 3 stopes, 21 tons, ore good in quality.

ALMADA AND TIRITO.—Report for fortnight ending May 11: Dios Padre. The lode in the 250 feet level driving north is without ore, and continues very small.—Guadalupe. In the tunnel driving south from Ibarra cutting the lode is compact, and is composed of very conglomerate-looking quartz. The ground in the No. 1 shaft is very hard, but we continue to make fair progress. The winze is now fixed at the No. 2 shaft, and I have no doubt we shall be able to cope with the water and effect the clearing of this shaft with more dispatch.—Stopes. These are still yielding fair quantities of good ore.—(Signed) John Nute.

BALAGHAT MYSORE.—Captain Jos. Pryor, May 15: Ogle's shaft. The crosscut east at the 270 feet level south has been extended 11 feet 3 inches, or 133 feet 3 inches from the level. About 8 feet behind the present end we intersected another branch of quartz: on this we have driven 5 feet north and 2 feet south, but I regret to say its quality is very low; and seeing the general appearance was not improving we suspended, for the present, any further work on it, and brought the men further back in the crosscut to open up the lode met with some time ago—viz., at 78 feet from the level. Here we have driven 4 feet north and 2 feet south; the lode is from 3 to 4 feet wide, but as yet it only produces a little quartz, and this only assays 2 dwts, 17 grains per ton. Its general appearance is, however, such as to warrant our driving a little more on it. We, therefore, intend stopping the crosscut for a time, and force this south level on this lode.—Tennant's shaft. This shaft has been sunk 15 feet, or 91 feet below the 500 feet level. There is no particular change in the character of the ground to refer to, it being still unproductive. The crosscut west at the 500 feet level has been driven 11 feet 9 inches, or 109 feet 6 inches from the shaft. Nothing of importance has as yet been met with. The 500 feet level north has been advanced 22 feet 9 inches, or 136 feet 6 inches from the shaft. The lode is improving in appearance, and now yields quartz of 6 inches wide, which assays 4 dwts, 13 grains per ton. The winze in the bottom of the 420 feet level north has been communicated with the 500 feet level. This has very considerably improved our ventilation. The 420 feet level north has been extended 21 feet, or 189 feet 9 inches from the shaft. The quartz varies from 6 feet to 3 feet 6 inches wide, and assays 6 dwts, 10 grains per ton.

FRONTINO AND BOLIVIA.—Mr. Eustacio's report on the mines, La Salada, April 10: You will notice that the crushings at the several mills are very much below the average. This is due to the lack of miners and exigencies of the dry season. During the political disturbances El Silencio suffered considerably, and, indeed, we were without miners or labourers of any class; those who were not taken as recruits hid themselves in the mountains, others escaped and went to their homes. However, all the departments were kept on with such labour as could be obtained, but these seemed to work in a half-hearted way, and not half the complement of work was done, still, I could not feel justified in closing any department whilst there was a possibility of its being continued. My costs, therefore, have been abnormal, but, weighing the matter over, and giving it full consideration, and having a large staff of officers, I thought it best to go on as I could. It is difficult to give a description of what has been done on the mines with any degree of regularity in the past two months. The new work has had some attention, but very little advance has been made. The new wheel at Maria Dama mill is at work, the hoisting engines and boilers with a new house are finished, a fine derrick about 25 feet high is erected over the hoisting shaft, most of the skip road is made and new skips, but the deposit for mineral in the adit level is not finished yet. The new mill at La Salada has remained untouched during the whole of last month, the work is still in abeyance, and I have decided to leave it until next month, when the workmen will most likely be returning.—The Mines. From the mine agent's tabulated reports enclosed you will see the different points detailed as usual. In supplementing these I add the following:—Silencio. The shaft sinking has not yet been resumed, but after the 20th a full force of men will be employed at this work. The ends south are not so good, as they have been considerably mixed with granite and slightly pinched. The north ground is much the same, very mixed, and the direction of the lode thrown by small faults crossing the country rock. There is no visible change in the nature of the country rock, but it appears to have undergone some disturbance, which has split the lode in small veins and mixed it to such extent as to very considerably depreciate its value. The crosscut No. 7 will intersect the lode in a few more feet of drive, and is in a locality where rich ore has been found in the levels above. The Bolivia crosscut was suspended for a time, but has again been resumed. The larger portion of the mineral has been taken from the stopes above No. 5 level east, where the lode is larger. This was done to keep the mill going as much as possible, but, as I have mentioned, its mixed nature has so depreciated its value that the month's return has not equalled those of some previous ones.—La Salada. All extraction has been done on the Manto or flat lode, but the mineral is poor generally. On the 6th inst. the La Salada main lode was cut in No. 2 crosscut, and fortunately in a rich vein, well impregnated with pyrites and galena, characteristic of good ore. I am sorry that I cannot send you the value of the mineral by this mail, as the lode has not been cut through to the footwall, and it is desirable to ascertain its full width before assaying it. It shows at present over 4 feet in thickness. Further particulars will be reported by the mail of the 23rd inst, when levels will have been started north and south, and the commencement of stoping on way.—Cordoba. In No. 8 crosscut, the ground has again changed, and no appearance of lode. In a recent survey made it was found that the locality of the No. 8 crosscut was some 100 feet from its former indicated position, and, consequently, a considerable amount of ground has to be driven through to intersect it. This ground has been driven through with the exception of about 25 feet, and with constant work the lode should be intersected in the coming month. The stoping ground is poor, and having only eight stamps at work the returns from this mill have been small.—Tigrito. The lode in the No. 6 level west has been very poor, but the indications shown as the end advances are very promising. None of the mineral extracted is being milled yet, and I cannot give up the hope that soon the rich shoot will be reached. This mineral is kept in reserve to mix with it. Meanwhile the mill is kept going on Cordoba mineral; although poor it helps towards the expense of its extraction, and under the circumstances it is the best that can be done.—Marmajon. At this mine the lode is rich both east and west, but very small. In the stoping a quantity of wall rock has to be extracted with the vein matter, and, being short of water, segregated before sent to the mill. A portion of it is now milled at

Marmajon with six stamps, but after the mineral at the latter place has been intersected this can no longer be kept on.—Marmajon. No change whatever has occurred in the crosscut. Very few men have been employed, and consequently very little advance has been made. Part of the foundation for the new mill has been cut. The tunnels and tramway to the old mill are completed. A new house as store, changing room, &c., is almost completed. Air pipes are being laid in the No. 8 crosscut for air for the drive, and the rising to No. 7 level.

HARMONY GOLD AND LAND.—Mr. Proctor writes under date May 10:—Mr. Evans can start at once on Strik loop, and there is a good deal of attention being paid to the Marabastad gold fields, in the vicinity of which he will fully inform you. As the grass cannot be burnt, prospecting here at present is impossible. However, a great deal of work is now being done on the different belts down the range where work was commenced some time ago. These belts cross our farms, and in many instances these properties are regarded as very valuable. I allude to those belts, which are entirely distinct from the Sutherland reef formation. Some rich finds have been made, and the deeper they go the better the reefs. I am glad to inform you that I have learnt from official sources that the Slati railway will soon be recommenced, and the work pushed on to a finish. We shall then have no difficulty in dealing with known sections of our farms.

MYSORE WEST AND MYSORE-WYNAD CONSOLIDATED (Tank Block).—The mining manager (Mr. P. Bosworth Smith) reports by mail for the half month ended 15th May, as follows:—South shaft, 450 feet level, has been driven to a distance of 138 feet. Progress, 30 feet 6 inches. This is now on the south boundary, and has been stopped. The lode improved in width from 2 feet up to the whole width of drive at the boundary. The value improved gradually from 3 dwts. to 1 ounce per ton. We are now awaiting survey of boundary underground to rise on the lode. 450 south crosscut east driven to 14 feet. Progress 6 feet. As no further branch was cut this was stopped and rise started. 450 south rise at 60 feet was risen 33 feet 9 inches. Progress 33 feet 9 inches. The lode improved in value and size up to 30 feet, when it was 6 feet wide, and worth 1 ounce per ton. From this point the lode has apparently turned over to the east, and has narrowed to 2 feet 6 inches, and is worth 10 dwts. per ton. The lode now gives indications of widening again. 450 north has been driven to a distance of 121 feet 9 inches, making a progress of 28 feet 3 inches. The hanging-wall of the lode turned round to the east and threatened to cut off the lode, which was here represented by large blocks of black rock of a ton weight, and overrun with strings of quartz, worth 6 dwts. per ton. The quartz seems now to be getting solid and making back in its proper direction. 450 north rise was continued for 3 feet 9 inches, total 17 feet 6 inches; and then, as the quartz seemed to be turning over, a crosscut was started from the level. 450 north crosscut east driven to 20 feet 6 inches. Progress, 20 feet 6 inches. This cut through about 15 feet of black rock, and then cut quartz, which seems to be turned over to the east. There is about 3 feet of quartz showing in the top of the end, and worth 10 dwts. per ton. The lode not having shown in the bottom of the end first seems to point to a folding back of the lode, giving it an easterly underlie. The lode in 450 south rise seems doing the same thing. 400 north driven to 332 feet 9 inches. Progress, 13 feet 3 inches. There is no change to report here.—354 north, No. 1 stopes. Quartz is 1 foot wide, worth 10 dwts. per ton.—No. 2 stopes. Quartz is 2 feet wide, and worth 8 dwts. per ton.—No. 3 stopes, south of rise. Quartz is 18 inches wide, and worth 10 dwts. per ton.—No. 4 stopes, north of rise. Quartz 3 feet wide, and worth 8 dwts. per ton.

MCCULLOCH (Coolgardie).—The manager's April report from Coolgardie is to the following effect:—Am satisfied the property is a most valuable one, although stone differs in depth to Golden Bar stone, which is on the McCulloch line of reef, and situated between the blocks forming your property; is of a very promising character, and resembles a good deal the rich stone now being raised at Lake View Mine. The value of the stone crushed on the Golden Bar was 4 ounces 9 dwts. of gold per ton, including the tailings.

MYSORE REEFS (Kangandy).—Fortnightly report of Captain Scantlebury, dated May 15: Underlie shaft. This shaft has been sunk 6 feet 6 inches, now 52 feet 6 inches below the 325 feet level. The quartz is 6 inches wide, and worth 15 dwts. of gold to the ton. The rock is very hard, but I am hoping for a change, when no doubt the quartz will widen. Level north from bottom of winze below the 325 feet level north has been extended 13 feet 6 inches, now 22 feet 6 inches from winze. The quartz is 15 inches wide, assaying 1 ounce 6 dwts. of gold to the ton. 325 feet level north has been advanced 10 feet 6 inches, now 146 feet from shaft. The quartz is 6 inches wide, and worth by panning 8 dwts. of gold to the ton.—Stopes in bottom 325 feet level north. The quartz is 15 inches wide, assaying 1 ounce 10 dwts. of gold to the ton.—Stopes in back 325 feet level north, south of rise. The quartz is 15 inches wide, assaying 8 dwts. of gold to the ton.—Stopes north of rise. The quartz is 12 inches wide, assaying 12 dwts. of gold to the ton.—Vertical shaft. The 260 feet level north has been extended 15 feet, now 135 feet 6 inches from shaft. The quartz is 2 feet wide, assaying 8 dwts. of gold to the ton. Winze below this level has been sunk 3 feet 9 inches, now 16 feet 3 inches below the level. The quartz is 3 feet 6 inches wide, assaying 10 dwts. of gold to the ton. Winze below the 200 feet level south has been deepened 4 feet 6 inches, now 64 feet 3 inches below the level. The quartz is 15 inches wide, assaying 8 dwts. of gold to the ton. Trial shaft south has been sunk 8 feet, now 21 feet. The quartz is 15 inches wide, assaying 5 dwts. of gold to the ton. I got one sample that assayed 10 dwts. The lode looks very promising, and there is good reason to believe that it will prove valuable in depth. I am collecting this quartz to make a test of it with the mill.

MYSORE GOLD.—May 15: Mining operations for the fortnight ending May 13. Rows's shaft, 1460 feet level north of crosscut west. This end has been driven 14 feet, making a total distance driven of 176 feet. There is nothing here to report.—1460 feet level north of sump winze. This level has been driven 13 feet, making a total distance driven of 224 feet. The lode is 4 feet wide, assaying 14 dwts, 8 grains.—1460 feet level south of sump winze. We have resumed the sinking of the winze in the bottom of this level, which has been sunk 18 feet, making a total depth of 58 feet. The lode is 2 feet wide, assaying 11 dwts, 17 grains. The rise in the back of this level against Ribblesdale's shaft has been put up 8 feet, making a total height of 30 feet. The lode is 2 feet wide, assaying 1 dwts, 7 grains.—1360 feet level south of crosscut. This has been holed to the winze sunk in the bottom of 1260 south. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 1 dwts, 22 grains.—1360 feet level north of crosscut. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 8 dwts, 16 grains.—1360 feet level south of sump winze. This level has been driven 16 feet, making a total distance driven of 35 feet. The lode is 3 feet wide, assaying 13 dwts, 1 grain.—1260 feet level north. This level has been driven 15 feet, making a total distance driven of 729 feet. The lode is 2 feet wide, assaying 15 dwts, 15 grains. There are 4 stopes in the back of this level, the average width of the lode being 5 feet, giving an average assay of 14 dwts, 20 grains. We have started to drive south on the fold from the top of the sump winze. Driven 3 feet, the lode is 1 foot 6 inches wide, assaying 1 ounce 13 dwts.—1260 feet level south. There are 3 stopes in the back of this level, the average width of the lode being 4 feet, giving an average assay of 19 dwts, 20 grains.—1160 feet level north. There are 4 stopes in this level, the average width of the lode being 2 feet 4 inches, giving an average assay of 14 dwts, 9 grains.—1160 feet level south. This level has been driven 2 feet, making a total distance driven of 425 feet 6 inches, the lode is 1 foot 6 inches wide, assaying 13 dwts, 1 grain. There are 2 stopes in this level, the average width of the lode being 1 foot 3 inches, giving an average assay of 1 ounce 7 dwts, 21 grains.—North of the crosscut east. This has been driven 14 feet, making a total distance driven of 66 feet, the lode is 3 feet wide, assaying 1 ounce 18 dwts, 6 grains.—South of the crosscut east. This level has been driven 12 feet, making a total distance driven of 18 feet, the lode is 3 feet wide, assaying 2 ounces.—1060 feet level north-east. This level has

been driven 3 feet, making a total distance driven of 694 feet. We have suspended this and put the machine to drive north 36 feet from the present end. Driven 9 feet, the lode is 9 inches wide, assaying 3 dwts, 22 grains.—890 feet level north of crosscut. This end has been driven 16 feet 6 inches, making a total distance of 308 feet 6 inches, the lode is 3 feet wide, carrying about inches of quartz, assaying 1 ounce 3 dwts, 6 grains.—890 feet level south. This level has been driven 15 feet, making a total distance driven of 311 feet.—780 feet level north on new chots. This level has been driven 22 feet, making a total distance driven of 452 feet. The lode is 6 inches wide, assaying 9 dwts, 2 grains. We have temporarily suspended the driving of this, and the machine and men will be placed to rise in the back of the level for the purpose of opening up a section of stoping ground. There are five stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 1 ounce 2 dwts, 8 grains.—620 feet level north of crosscut. There are six stopes in this level, the average width of the lode being 2 feet, giving an average assay of 5 dwts, 5 grains.—620 feet level south of crosscut. The lode in the stopes in the back of this level is 2 feet 6 inches wide, assaying 9 dwts, 2 grains.—Driving south on the branch in the 620 crosscut east. This end has been driven 5 feet, making a total distance driven of 40 feet 6 inches. The lode is 1 foot wide, assaying 5 dwts, 5 grains.—Crocker's shaft. This shaft has been sunk 24 feet, making a total depth of 207 feet below the 620 feet level. The quartz recently met with is now 3 feet wide, assaying 2 dwts, 14 grains.—466 feet level north. The lode in the stopes in the back of this level is 4 feet wide, assaying 2 dwts, 14 grains. 400 feet level north. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 9 dwts, 9 grains.—296 feet level north. There are two stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 15 dwts, 4 grains.—236 feet level north. There are three stopes in the back of this level, the average width of the lode being 1 foot 8 inches, giving an average assay of 1 ounce 6 dwts, 3 grains.—Taylor's shaft, 466 feet level north. The lode in the stopes in the back of this level is 2 feet wide, assaying 12 dwts.—Gilbert's shaft, 520 feet level north. There are two stopes in the back of this level, the average width of the lode being 1 foot 10 inches, giving an average assay of 14 dwts, 8 grains.—520 feet level south. The lode in the stopes in the back of this level is 2 feet wide, assaying 15 dwts, 15 grains.—430 feet level north. There are two stopes in the back of this level, the average width of the lode being 2 feet, giving an average assay of 13 dwts, 1 grain.—360 feet level north. The lode in the stopes in the bottom of this level is 1 foot 8 inches wide, assaying 5 dwts, 6 grains.—290 feet level north. There are two stopes in this level, the average width of the lode being 2 feet, giving an average assay of 16 dwts, 23 grains.—290 feet level south. The lode in the stopes in the bottom of this level is 2 feet wide, assaying 18 dwts, 6 grains.—180 feet level south. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 12 dwts, 9 grains.—Tennant's shaft, crosscut west at the 750. This has been driven 20 feet 2 inches, making a total distance driven of 109 feet 2 inches.—520 feet level north: There are two stopes in the bottom of this level, the average width of the lode being 1 foot 9 inches, giving an average assay of 15 dwts, 16 grains.—Schaw's shaft, 450 feet level north of crosscut. There are three stopes in the back of this level, the average width of the lode being 1 foot 5 inches, giving an average assay of 9 dwts, 13 grains.—450 feet level, south of crosscut. This level has been driven 1 foot 9 inches, making a total distance driven of 327 feet. The lode is 9 inches wide, assaying 10 dwts, 10 grains. The winze in the bottom of this level has been sunk 10 feet, making a total depth of 61 feet 9 inches. The lode is 1 foot 9 inches wide, assaying 16 dwts, 23 grains. There are three stopes in this level, the average width of the lode being 2 feet 6 inches, giving an average assay of 18 dwts, 23 grains.—McTaggart's shaft. This shaft has been sunk 2 feet, making a total depth of 65 feet 3 inches below the 550.—550 feet level north. This level has been driven 13 feet 3 inches, making a total distance driven of 107 feet 5 inches.—550 feet level, south of crosscut west. This end has been driven 13 feet, making a total distance driven of 75 feet 6 inches.—320 feet level south. There are three stopes in the back of this level, the average width of the lode being 1 foot 11 inches, giving an average assay of 4 dwts, 18 grains.—Glen shaft, 250 feet level north, No. 1 crosscut east. This has been driven 3 feet, making a total distance driven of 23 feet 9 inches.—Ribblesdale's shaft. The men are engaged stripping down the rise and timbering.—Williams's shaft, crosscut east from the 173. This has been driven 2 feet, making a total distance driven of 124 feet 8 inches. Health good.

NUNDYDROOG.—Report for the fortnight ending May 11: Taylor's shaft has been sunk 10 feet, total depth 77 feet below the 1160 feet level. Lode 1 foot 3 inches wide, assaying 5 dwts. The 1160 south has been driven 14 feet, total distance 67 feet 6 inches. Lode 6 inches wide, assaying 2 dwts, 12 grains. The 1160 north rise has been put up 15 feet 6 inches, total height 26 feet 6 inches. Lode 1 foot 6 inches wide, assaying 10 dwts. The 1000 north rise has been put up 19 feet 6 inches, total height 33 feet. Lode 2 feet wide, assaying 3 dwts, 18 grains. In the stopes in the back of the 760 north, the lode is 2 feet 6 inches wide, and assays 12 dwts, 12 grains. The lode in the stopes in the bottom of the 680 north is 2 feet wide, assaying 7 dwts, 12 grains; and in the back of the 600 north is 2 feet wide, assaying 8 dwts, 18 grains. In two stopes in the bottom of the 520 north, the lode averages 2 feet in width, and 12 dwts, 12 grains in assay value. The 450 north intermediate drive has been extended 6 feet. Lode 2 feet wide, assaying 2 dwts, 12 grains. The lode in the stopes in the bottom of the 370 north is 2 feet wide, and assays 7 dwts, 12 grains.—Main shaft. The 1080 south has been driven 16 feet 6 inches, total distance 50 feet. Lode 2 feet wide, assaying 1 ounce 6 grains. The 1080 north has been driven 22 feet 6 inches, total distance 58 feet 6 inches. Lode 1 foot wide, assaying 3 dwts, 18 grains. The 1000 north has been driven 10 feet, total distance 208 feet. Lode of no value. In the stopes in the back of the 920 south, the lode is 7 feet wide, and assays 1 ounce. The lode in the stopes in the bottom of the 840 south is 3 feet wide, assaying 1 ounce 10 dwts, and in three stopes in the back of this level the lode averages 4 feet 6 inches in width and 1 ounce 5 dwts, 10 grains in assay value. Crosscut east from the 680 north has been extended 17 feet 6 inches, total distance 370 feet 6 inches. Some stringers of quartz have been intersected of no assay value. The 680 has been driven southwards from the crosscut east on a lode met with at 270 feet from the entrance. In this drive, which has been extended 12 feet south, the lode is 2 feet 6 inches wide, of no value. The 520 has been extended eastward on the crosscourse 25 feet, total distance 255 feet. A branch of quartz was met with at 221 feet in this crosscut, and a drive has been extended 5 feet northward on its course. So far as proved it contains only a trace of gold. The 370 crosscut east has been extended 7 feet 6 inches, total distance 39 feet 6 inches. No change. Kennedy's shaft has been sunk 6 feet, total depth 36 feet below the 600 feet level. The 600 south has been driven 19 feet, total distance 30 feet 6 inches. Lode 2 feet wide, containing a trace of gold. The 600 north has been driven 23 feet, total distance 34 feet. Lode 2 feet wide, assaying 2 dwts, 12 grains. The 520 south has been driven 31 feet 6 inches, total distance 486 feet. Lode 2 feet wide, assaying 1 dwts, 21 grains. The 520 north rise has been put up 53 feet 6 inches, total height 73 feet. Lode 3 feet wide, assaying 1 ounce 8 dwts, 3 grains. The 440 south has been driven 24 feet, total distance 927 feet 6 inches. Lode 3 feet wide, containing only a trace of gold. In the stopes in the back of this level. The lode is 2 feet 6 inches wide, and assays 2 ounces 3 dwts, 18 grains. The 440 north rise has been put up 16 feet, total height 62 feet. Lode 1 foot 6 inches wide, assaying 10 dwts. In the stopes in the back of the 440 north the lode is 7 feet wide, and assays 1 ounce 13 dwts, 18 grains. The 370 south has been driven 19 feet 6 inches, total distance 651 feet. Lode 2 feet 6 inches wide, assaying 15 dwts. The 370 north has been driven 17 feet 6 inches, total distance 505 feet. Lode of no value. The lode in the stopes in the bottom of this level is 7 feet wide, and assays 2 ounces 1 dwts, 6 grains, and in the stopes in the back of the level is 6 feet wide, assaying 1 ounce 12 dwts, 12 grains. The 370 north rise has been put up 13 feet 6 inches, total height 47 feet.

machinery are equal to anything in Australia. Its School of Mines has become famous throughout the mining world, and the enterprise of its people has been recognised in all parts of Australia where gold mining is carried on. Yet within and around this marvellous gold mining centre there is ample scope for the profitable employment of capital for the development of the quartz lodes and alluvial leads of gold, which will take ages to explore and centuries to work out.

Ballarat is credited with a production of about £57,000,000 sterling in gold, and its miners, mining speculators, and citizens generally by their enterprise have materially assisted the development of distant fields in all parts of Australia, while often-times neglecting good chances within their own district. The drainage of the alluvial leads and the rocks and drifts overlying them is the one great difficulty to be overcome in many places, and some judicious system of combination of capital, assisted by the Government, will have to be arranged before the main leads can be worked as profitably as they should.

The water in the quartz lodes does not, as a rule, affect the working of the mines, and there is seldom more, if as much, as is required for crushing purposes. An ample domestic water supply is available at all seasons.

CORRESPONDENCE.

We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

THE MURCHISON GOLD FIELDS, W.A.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—It has often struck me as strange that, while Coolgardie and its vicinity are persistently boomed by newspapers far and wide, and the mines of that locality eulogised *ad nauseam*, so little should be said, and apparently known, of this portion of the Murchison gold fields. Nannine, whence I write these lines, is the premier field of the extensive Murchison. I have resided on this spot for over three years, and nearly from its inception, and am, therefore, fully qualified to give a faithful account of the place, more particularly as I hold no interest, direct or indirect, in any mine in Australia.

In 1891, Douglas, a prospector, brought to Geraldton some fabulously rich quartz specimens. The stone was literally studded with gold—"blobs" of gold they were aptly termed. These were from Nannine. Shortly afterwards McPherson and Peterkin took up the ground since acquired, with others, by the Nannine Gold Mining Company, and this property is being worked to this day, a 10 head battery having been erected with extensive winding and pumping machinery. Several rich shoots, of no great length, have been found, but no dividends have as yet been forthcoming, although the mine is amply paying its way, and may shortly become remunerative. South of this is the Murchison Consolidated Company, which comprises also the Caledonian and Queen of the Lake Mines. Here also is a 10 head mill, and other necessary machinery. Besides these, the following claims are being worked:—The Caledonian Extended, Home Rule, New Year, Brilliant, Royalist, Mount Hall, and others, from which crushings of from 1 ounce to 18 ounces per ton have been obtained.

The latest development, however, and probably by far the most important, has taken place on the Champion line of reef, a lode running almost parallel with and a little to the westward of the first-named Nannine reef. Marvellous to say, this line, destined, probably, to prove far and away the most valuable of all, was suffered to remain unexploited till a few short months ago.

About October last, Captain A. S. R. Osborne, representing a syndicate of Melbourne gentlemen and others, arrived here with a view to acquiring some reliable property in this vicinity. He was struck by the appearance of this line of reef, which he has since appropriately styled the Champion. It consists of a long stretch, some mile and a-half, of well-defined reef, marked here and there by vast outcrops, some being from 10 to 15 feet in height from the surface, and 7 to 16 feet in width. Investigation showed Captain Osborne the welcome and hitherto unsuspected fact that gold was visible, almost from end to end. He has now acquired some 17 acres of the most eligible and richest portion of the reef, and three months, or less, of prospecting, has convinced him, as well as many practical and theoretical men who have examined it, that a really valuable property more awaits treatment, on a properly large scale, to yield returns which cannot fail to satisfy the most exigent of shareholders. Splendid specimens have been raised; not from one spot, but throughout the whole length of 1250 feet comprised in Captain Osborne's leases. A shaft, 65 feet deep, has been sunk at the southern end, and at this depth the reef shows no diminution either in size or quality. Two drives, one 25 feet and the other 30 feet, have been made, and the result is eminently satisfactory.

It is fairly astonishing that such a show as that presented by the Champion reef should remain so long unknown in this place, while scores of prospectors make desperate plunges hundreds of miles in the far interior, seeking for mythical Mount Morgans; and Captain Osborne may fairly be supposed to possess either a divining-rod or discrimination far above the average.

The quartz in this Champion claim is highly mineralised, besides containing plenty of free gold. Iron and copper pyrites abound, and free gold is actually seen sticking out in the very centre of a vein of pyrites. Large quantities of the stone are tinged with the salmon-coloured manganese stain, and wherever this is found, so surely there is gold—fine, 'tis true—but evenly disseminated through the quartz. Everything makes for the certainty that it is no "patch" of phenomenal, yet ephemeral richness, but a steady-yielding and permanent reef.

In the almost inexhaustible supply of fairly auriferous stone will be found the elements of assured success, provided the operations are carried on by means of a sufficiently large plant. It is proposed to treat the stone by the cyanide process, by which a much larger percentage of the gold can be extracted than is possible with the ordinary amalgamating battery, and it is to be hoped the syndicate will shortly be enabled to raise the necessary capital to thoroughly work this excellent property. A nominal capital of from £80,000 to £100,000 would be ample to set in payable operation the best show yet seen on the Murchison. Mr. Poole, the agent for the Australian Gold Recovery Company (cyanide process) examined the Champion, and unhesitatingly, in my presence, expressed the opinion that it was the best reef he had seen on these gold fields.

Were this reef at Johannesburg, it would simply put the local shows entirely in the shade, for there is, first, the necessary vast volume of stone; next, an ample supply of nearly fresh water at 70 feet; and, third, the absolute certainty of a yield per ton of more than double that of the Rand mines. Were it even at Coolgardie, the world would ring with its praises. Its comparatively modest yield would be magnified an hundredfold, and

any "wild cat" show within 50 miles of it could be foisted on the market. But as it is merely at Nannine, a place which has no local paper to boom it and trumpet its praises, it seems to be totally overlooked.

However, I trust that your courtesy in publishing this somewhat imperfect account may have the effect of letting the public know that there are other, and possibly much better-paying, reefs besides Bayley's, Wealth of Nations, Londonderrys, and others, the tales anent which have so dazzled men's senses, that they overlook the less glittering but more solid and enduring advantages to be had from reefs yielding steadily and permanently, and containing literally hundreds of thousands of tons of good milling stone. The Champion reef is 300 miles north by east from Geraldton—the seaport. Timber is moderately plentiful. A railway is about to be constructed, the terminus of which is to be Cue, a mining township 55 miles south of this. Mr. D. D. Rosewarne, F.G.S., long and favourably known as an authority on gold and silver mining, has carefully examined the Champion reef, and reports most highly on its prospects.

Thanking you in anticipation for publishing, and apologising for the length of this letter, I am, Sir, yours faithfully,

R. CHARLES HOWES (Journalist).

Nannine, W.A., April 19.

COST OF PROVING A GOLD MINE.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Amidst so many glaring failures, and the infinitesimal proportion of paying ventures, it would be interesting, as well as of public utility, to have some reliable evidence as to the cost of proving a gold mine, and whether that amount should be exceeded when calling upon the public to subscribe, before proof of its value had been clearly established.

I have it on good authority from those on the spot that no mine should cost more than £35,000 to £40,000, in order to prove conclusively whether it is worth while proceeding further; and though I have not the slightest doubt such is the case, and that 90 per cent. of the ventures placed on the market are over-capitalised, still there are so many experts about that it would be gratifying at least to have an opinion, or a variety of opinions, as the case may be.

It is said, and, perhaps, truly, that mining engineers, geologists, and surveyors can determine the course of a lode with almost unerring accuracy, then, if so, why so many failures?

One has only to take a walk round, examine the various mining companies' door-plates, fill a note-book, and return to his quarters, where, if he may have a "Stock Exchange Year-book," or "Mining Directory," he will quickly ascertain the very large proportion of "dead nuts" he has collected.

In some collections of mine I can repeat lists of companies running into hundreds of thousands, the present value of which is not more than 5 per cent. of the total amount subscribed. Where, therefore, has all this money gone to? Certainly not into the ordinary channels of trade.

Another interesting feature presenting itself, and one also worthy of note, is that on the boards of these companies are partners of many distinguished firms, which naturally points to the conclusion that they, at all events, had some confidence in the undertakings.

When, however, the partner of an old-established firm disports himself on the board of too many mining companies—or any description of company, for the matter of that—it is tantamount to a certainty some will, rightly or wrongly, suspect that gentleman's stability of purpose as a business man. It would even appear that the position of director nowadays has not that aristocratic tone about it as of yore.

I do not, nor do I ever wish, to speak disparagingly, but there are doubtless a few shows that require looking into, and probably a few that have not seen the light, hence the argument may cut both ways and perhaps elicit a certain amount of useful information when once the ball begins to roll.

Knowing, therefore, you are always prepared to open your columns for the public good, I take the liberty of making this suggestion. Perhaps, by way of example, some of those connected with the Londonderry Mine will inform your readers how much was spent in that venture before the public were asked to subscribe.

We have so many claimants to scientific knowledge amongst us—from a whole fortnight on the gold fields and upwards—besides a great many more who have heard a lot, that I look forward with some degree of pleasure to any criticisms that may appear.

SCRUTATOR.

THE LONDONDERRY MINE: A POSSIBLE EXPLANATION.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—In tin, copper, and lead mines there have been elvans, slides, crosscoursers, &c., that have thrown the lodes in some instances for a considerable distance, and in some cases it was imagined that the lodes were altogether unbottomed. I am told by an old miner of a case he well remembers in the parish of Gwennap many years ago, where the lode heaved, and it was thought the same was unbottomed. The mine was actually "knocked," and remained idle for some time, when one of the miners said that he believed the lode was heaved, and on the faith of this man's assertion the mine was pumped out, a crosscut was driven and a rich lode cut into, and in a short time profits of £300,000 were divided.

Another circumstance, which I well remember, happened at Old Polgooth Mine, near St. Austell. At the 60 fathom level suddenly they lost the lode, and fears were expressed that it was unbottomed, but one of the miners said the lode was heaved, and pointed out the direction in which he thought it would be found. A crosscut was driven in the direction named, and the lode met with. It was found rich for tin, and from a short piece of ground £80,000 worth of tin was taken out from one level alone. Polgooth at this time was under the management of an old friend of mine, who is still alive. In other mines circumstances of a similar nature have come under my notice. I am inclined to think that something of this description has happened at the Londonderry Gold Mine, in Western Australia, as a leader of gold quartz, it appears, was found very rich near the surface. This, I think, is a good reason to think something has come in contact with the lode or reef, and it has jumped away out of its regular course. It may be found by someone who understands matters of this kind; anyhow, I think it is worth trying for, as if at any other gold mine a similar circumstance happens, and if the lode or reef be found in the Londonderry, as I believe it is possible, it would be a guide and encourage others to search, as it is possible a similar freak may happen in other gold mines. I beg to say that I have known heaves, &c., turn the lode many fathoms, and when found again, the lode, as a rule, has been found richer than when it slipped away. I think the Londonderry should be inspected by someone thoroughly well acquainted with freaks of this description, and particular notice taken as to the dip of the country rock, &c.

The Londonderry may be worth all it was thought to be at first, and I only hope it may. In my 40 years' mining experience I have seen lots of this kind, and from these and other causes to my personal knowledge, mines have been, and still are, working at a loss, whereas they should have paid, and should now pay, fair dividends.

Roche, Cornwall, June 5.

AUSTRALASIAN VIEWS ON THE ORIGIN OF GOLD NUGGETS.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—I have read with considerable pleasure the exhaustive and valuable articles in your paper on this interesting subject, and should wish to ask how far we can venture to conclude that the completing agency of gold, and all other minerals everywhere, are set down to the sun.

The spectrum shows us all minerals in the sunlight, whose completing agency is evidenced in all Nature.

Take two fruit-trees growing under same cultivation side by side. One bears the sweetest fruit, the other the bitterest fruit. In the one, the harmony existing of sweetness is completed by the sun; in the other, the sun completes the existing harmony of bitterness. Without the sun we should not have either sweet or bitter—had the harmony of sweetness existed in both trees. The completing influence of the sun would produce sweet fruit or the harmony of bitterness, both would be bitter.

In conveying this sentiment to minerals, all of which are near the earth's surface, we might conclude that the harmony of each in order and diversity as now found is the result of the completing action of the sun.

This harmony would embrace every favourable condition but the sun's completing powers and action.

Atmospheric influences and geological changes placing minerals were now found on and in the earth. Their source is the sun, their disposition being the completing of the existing harmony of gold on any other mineral. The absence of this harmony accounts for the absence of every known mineral, although we often find conditions and indications leading us to conclude the mineral will be found; but it is not found, and that harmony necessary to allow the completing agency of the sun is absent.—Yours faithfully,

R. H. WILLIAMS, F.G.S.

Cuddra, Cornwall, June 5.

CORNISH MINING.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—I wish to call the attention of those interested in Cornish mining to what I believe to be a valuable property in the parish of St. Ives. Captain H. Bennetts, of Callington, has acquired this sett, which was worked about 26 years since, and known by the name of New Trelawny.

The company at that time were in search of copper ore but that mineral was found only in small quantities. The result of their work laid open a large lode estimated to produce from 10 to 12 tons of arsenical mundic to the fathom. Samples from the lode have produced from 25 to 30 per cent. of pure arsenic. The shaft was sunk by the old company 50 fathoms, and levels have been extended for a considerable distance. When the mine is drained, stoping on this large lode could be commenced, when it is anticipated that no further outlay would be required. The water in the mine is but little, and a small outlay only would be required to drain the mine to the bottom; the rock is very easy to work, being in clay slate. It is estimated that 500 tons of the arsenical mundic can be raised per month and burnt on the spot, which undoubtedly would leave a good profit.

At the time the old company worked this mine they were obliged to send away the mundic to be burnt, and arsenical mundic was of very little value at that time, which was the cause of the old company relinquishing the property. The sett has been acquired on extremely favourable conditions. A company reworking this mine would reap considerable advantages from the work done by the old company.

St. Ives, June 3.

E. C. CYMO.

THE INSTITUTION OF CIVIL ENGINEERS.—For some of the original communications read and discussed at ordinary meetings of this institution during the past session the council have made the following awards, viz.:—George Stephenson medals and Telford premiums to A. J. Darston, Engineer-in-Chief, R.N., for his paper on "The Machinery of Warships," and to J. I. Thornycroft and S. W. Barnaby for their joint paper on "Torpedo-boat Destroyers;" Telford medals and premiums to W. D. Bruce for his description of the "Kidderpur Docks, Calcutta," and to S. J. Berg for "The St. Gothard Mountain Railway and the Stanserhorn Cable Railway;" the Manby premium to C. Butters and E. Smart for their joint paper "Plant for the Extraction of Gold by the Cyanide Process;" and a Crampton prize to J. Richardson for "The Mechanical and Electrical Regulation of Steam Engines." For papers printed in the "Proceedings" without being discussed—a Telford medal and a Telford premium to A. Sharp for "Circular Wheel-teeth;" a Telford medal to the representatives of the late Henry Gill for his paper on "The Filtration of Müggel Lake Water Supply, Berlin;" Watts medals and Crampton prizes to J. A. Griffiths for "Windmills for Raising Water," and to A. J. Hill, for "Repairs and Renewals of Railway Rolling Stock;" and Telford premiums to O. Guttman for his account of "The Removal of the 'Iron Gates' of the River Danube;" to K. Leibbrand for his paper on "A Concrete Bridge at Munderkingen;" to A. Scott for "Deep-water Quays at Newcastle-on-Tyne;" and to D. Cunningham for "The Estuary of the Tay." For papers read at supplemental meetings of students Miller Prizes were awarded to W. G. Wales for "Calasans and Gates for closing Lock and Dock Entrances;" to S. H. Barraclough for his paper, contributed jointly with L. S. Marks, entitled "Some Experiments on the Heat-Losses to the Cylinder Walls of a Steam Engine;" and to E. E. Matheson for "Timbering in the Amptill Second Tunnel;" whilst for papers read before local associations of Students, Miller prizes were bestowed on A. M. Stewart (of Glasgow) for "The Glasgow District Subway;" on R. C. Farrell (of Glasgow) for "The Permanent Way and Signalling of the Glasgow Central Railway;" and on H. Fowler (of Manchester) for "The Testing and Inspection of Plates."

A SIMPLE TEST FOR ARSENIC.—Although some manufacturers make their papers of every pattern without the slightest trace of arsenic, yet there are even now some whose want of scruples, or whose ignorance need exposure. The mineral gums employed by paper stainers for wall-papers far too frequently contain arsenic in greater or less quantities, and hence are exceedingly deleterious to health, and even life. There are a great many ways of ascertaining whether a paper contains arsenic, the simplest of which are as follows:—1. Mix in a bowl one tablespoonful of Condy's fluid with four of water; if this be left for a night in a suspected room it will clearly demonstrate the presence of arsenic by change of colour, the beautiful crimson of the mixture changing to a dark, dirty purple.—2. Heat a piece of the paper upon a red-hot coal or in the flame of a spirit-lamp or candle. If there be arsenic, its presence will be shown by the white, poisonous vapour given off, and by the exhalation of the peculiar arsenical odour resembling garlic.—3. Procure a ounce of the strong liquor ammoniac in a stoppered bottle; an application of the wetted stopper to the green of the paper will, if arsenic be present, immediately turn it blue.—*Engineer and Iron Trades Advertiser.*

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Officer, Liskeard, Cornwall, writes (June 6) as follows:—The mining market has undergone the usual quietude during the Whitsun recess. Tin shows a further decline, and with the unsatisfactory result of yesterday's sale, most shares are weaker, and sellers more prevalent:—Blue Hills, 17s. to 18s. 6d.; Carn Bras, 2½ to 2¾; Cook's Kitchen, ½ to ¾; Devon Consols, 32s. to 34s.; Dolcoath, 48½ to 49; Drake Walls, 2s. 9d. to 3s.; East Pool, 5½ to 5¾; Killifreth, 10s. to 11s. 6d.; Levant, 5 to 5½; Polberro, 18s. 6d. to 20s.; South Crofty, 14s. to 16s.; South Frances, ½ to ¾; Tincroft, 7½ to 7¾; West Frances, 1 to 1½; West Kitty, 6 to 6½; Wheal Bassett, 1½ to 1¾; Wheal Grenville, 12½ to 13½; Wheal Kitty, 2s. 6d. to 3s.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of Thursday, June 6:—There has been very little doing during the last week in the mining market, the holidays having interfered with business. Quotations herewith:—Blue Hills, ½ to 1; Carn Bras, 2½ to 2¾; Cook's Kitchen, ½ to ¾; Dolcoath, 48 to 50; East Pool, 5½ to 6½; Killifreth, 9s. to 10s.; Polberro, ½ to 1½; South Crofty, ¾ to 1; South Frances, ¾ to 1; Tincroft, 7½ to 8; West Frances, 1 to 1½; West Kitty, 6 to 6½; Wheal Bassett, 1½ to 2; Wheal Grenville, 12½ to 13; Wheal Kitty, ½ to 1. Tin, 63½.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAKER, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write June 6 (noon):—Owing to the Whitsuntide holidays there have been only two full business days since our last report was issued. It is useless, therefore, to enter into detail, as there is little feature in the markets generally, excepting in Americans, which are nearly all lower, the fall in one or two instances being somewhat considerable, though at the finish they are rather above the worst. The prevailing feature in home rails—and indeed this may be said to apply to nearly every department—has been extreme quietness, and as the settlement commences on Saturday next, it is very improbable that much further business will be done this account.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (June 6) writes:—During the past week there has not been much business doing owing to the holidays. Notwithstanding favourable weather and improving trade reports prices have rather tended downwards on liquidative sales and absence of support.

In shares of coal, iron, and steel companies the principal alteration is a decline on Fifehire Main Preference shares to 35s. on the accident at the colliery. African coal are at 8s. 9d.; Marbella Iron, 50s.; Niddrie, 45s.; Roswell Gas Coal, 5½ to 5¾; Steel Company of Scotland, 50s.

In shares of copper concerns a considerable amount of business has been done. Owing to the improving state of the copper market Tharsis rose to 99s., and Tinto to 16½, but are now both easier. Arizona are at 29s.; Mason, 60s.; Drake Walls Tin shares are offered at 1s. 6d.; and Killifreth, 9s. 6d.

In shares of gold and silver mines there has been less business doing. The tendency of the market is irregular. When liquidation sales are less pressing some recovery sets in, but it is quickly lost again.

Reports from the various South African and Indian mines for last month are satisfactory enough, but have not affected prices owing to the inactivity. Randfontein are steady on the large number of subsidiary companies which are being formed out of the company's property, and Potchefstroom are favourably inclined for similar reasons. Afrikaner bet'er on good reports from property. Chartered improved from 73s. to 78s., but have fallen back to 73s. again. Broken Hill, declined to 42s., but have recovered to 44s. Sheba have been largely dealt in from 36s. to 39s. 6d.; African Recovery are at 31s.; Achille, 3s. 9d.; African Consolidated, 5s. 6d.; Aurora, 25s.; Bayley's Reward, 10s.; Bechaanaland, 46s. 3d.; Big Golden Quarry, 2s. 6d.; Buffelsdoorn, 5s.; Caratal, 1s. 3d.; Creusot, 51s. 3d.; Day Dawn P.C., 6s. 3d.; Doornkop, 9s.; East Rand, 87s. 6d.; George and May, 28s.; Gold Fields of Mysore, 24s. 6d.; Gold Fields Deep, 6½; Gwelo, 5s.; Guy Fawkes, 12s. 6d.; Glencairn, 82s. 6d.; Hauraki, 11s. 9d.; Johannesburg Investment, 80s.; Jumpers, 5s.; Jackson, 2s.; Idaho, 5s.; Klerksdorp, 17s. 3d.; Luipaard's Vlei, 17s.; Lower Roodepoort, 7s. 6d.; La Plata, 2s. 6d.; Londonderry, 12s. 9d.; Metropolitan, 55s.; Mawson's Reward, 18s. 9d.; Mallica, 15s. 3d.; Mozambique, 28s.; Nundydoo, 36s. 3d.; New Queen, 7s. 6d.; North Sheba, 8s.; Oceana, 48s. 9d.; Rhodesia, 8½; Royal Oak, 2s. 9d.; Roodepoort Deep, 8s. 9d.; Roodepoort, 8½; Springdale, 3s.; South Luipaard's Vlei, 3s.; Sheba Queen, 4s. 9d.; Spitskop, 26s. 3d.; Southern Geldenhuys, 6s.; Transvaal Estates, 17s.; Thistle Reef, 4s.; Tati Concessions, 71s. 3d.; Victoria and Altamira Preference, 2s. 9d.; Van Ryn, 8½; West Australian Exploring and Finance, 27s. 6d.; Wemmer, 11½; and Wolhuter, 7½.

In shares of miscellaneous companies there has not been much doing, and prices are generally easier. In oil companies Broxborn are at 12½, Hermand 2s., Pampherton 9s. and Young's 42s. Nobel's Explosives are 14½ ex div., and Roburite Explosives 30s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of June 6:—Business during the past week has been very quiet. The changes in values of home railway Ordinary stocks have been slight. Secured stocks continue in demand for investment. Bank stocks are wanted, at improving prices. Bank of Scotland have risen from 326 to 327, British Linen from 385 to 386, Clydesdale from 19 15-16 to 19½ Commercial from 68 to 68½, National from 333½ to 336, Royal from 22½ to 230. In insurance shares a small business has been done, and prices remain without appreciable change. The demand for American trust securities continues. In coal shares Arncliffe have improved from 26½ to 27, Niddrie and Benhar have declined from 44s. 6d. to 44s., Cowdenbeath from 16½ to 16; Rio Tinto are 11-16 up at 16½. In oil, Broxborn have improved from 12½ to 12 7-16, Pampherton from 8½ to 9. Hermand have receded from 2s. 3d. to 2s., Linlithgow from 40s. to 38s. 6d. Distillers shares are 7s. 6d. higher at 17½. McKean Preference 2s. 6d. higher at 14½. Coats' shares are 3s. 9d. higher at 23½.

SINGARENI COALS.—From personal observation during a prolonged tour in the Godavary district and adjoining parts of the country, we are in a position to state that the demand for this mineral fuel is growing apace. This is a significant fact. The East Coast Railway and Southern Mahat a Railway use the coal largely with advantage; and the G.I.P.R. not only use it, but abated their rates to develop its traffic. The greatest gainers, however, by the use of this country coal are the Madras and South Indian Railways, which have profited largely by the immense facilities the Backingham canal affords during certain periods of the year for transport of this class of traffic by water carriage. In this connection the South Indian Railway appear to be the greater gainers, and that is entirely due to the business forethought of the premier agent of all the railways in India—namely, Mr. W. S. Betts—who is the *doyen* of all the railway services combined. The Hyderabad-Deccan Company owe a debt of deep gratitude to the energy and enterprise of that able and energetic merchant—Mr. Waljee Laljee, whose efforts to introduce a cheap and good supply of mineral fuel into the Presidency have been but scantily recognised in Madras. It is a sad commentary on this indifference on the part of those most concerned that, while Mr. Waljee Laljee's efforts to promote industrial exten-

sions and improvements in Southern India are neglected or ignored by his very neighbours, that a demand should have arisen for Singareni coal to Burma, the Straits, and Ceylon, and that the requisitions for shipments to these places are absorbing consignments that should properly pass through Madras. But, fortunately, Mr. Waljee Laljee is equal to all calls that are made on him, notwithstanding the fact that the East Coast Railway are themselves trying to create an export trade in the Hyderabad mineral from Oconada, with the object of securing the traffic from it over its lines.—*Indian Engineering.*

NICKEL AND NICKEL-STEEL.

By FRANCIS L. SPERRY, Cleveland, O.

(Concluded from page 650.)

Flange Steel.

THE Cleveland Rolling Mill made some flange steel for the Canadian Copper Company, with and without nickel, for the purpose of making comparative tests of their physical qualities. The results are given in the following table:—

COMPARATIVE TESTS OF NICKEL-STEEL AND BEST SOFT

FLANGE STEEL (Specimens cut from plates).						
	Charge, Lbs.	Reduction of Area, Per Cent.	Elongation in 8 inches, Per Cent.	Elastic Limit, Lbs. per square inch.	Ultimate Strength, Lbs. per square inch.	Contraction of Area, Per Cent.
I. Nickel-Steel.	Basic scrap, 93 0. Low-phosphorus pig, 90 0. 80 per cent. ferro, 15s. P. 0.045; S. 0.038; Ni, 2.69s.	53 3 56 3 45 1 51 4 49 7	23 25 28 1 24 5 26 1 23 75	47,100 44,700 47,400 47,300 48,900	66,370 66,000 67,000 64,800 66,200	48 0
II. Soft Steel.	Basic scrap, 9500. Low-phosphorus pig, 9000. 80 per cent. ferro, 160. P. 0.048; S. 0.038.	45 6 45 6 61 8 63 1 63 1	23 1 26 1 32 1 27 1 26 1	35,730 3,000 32,800 34,760 35,500 37,910	55,500 54,600 53,000 52,500 55,700 58,300	48 1

This nickel-steel shows an average increase of 11,400 lbs. per square inch, or about 31 per cent. in elastic limit, and an average increase of 10,400 lbs. per square inch, or about 20 per cent. in ultimate strength, without any perceptible effect upon the ductility, as evidenced by the percentage of elongation and contraction of area.

The Canadian Copper Company, at its works at Brooklyn, near Cleveland, Ohio, made a series of experiments on nickel-steel with varying percentages of nickel and carbon in an improved acid-bottom open-hearth furnace. The heats amounted to about 1000 lbs. of metal, made out of washed low-phosphorus pig and high grade Bessemer ore. Nickel in metallic form was charged into the bath about one and one-half hour before tapping. Difficulty was experienced in controlling the heat, and other adverse conditions were encountered on account of the limited scale and lack of facilities in managing such a small furnace, which rendered it impossible to make steel of a uniform grade and show the degree to which a definite percentage of nickel in steel would be influenced by varying percentages of carbon and vice versa. Still, the results of the physical tests of this steel may be of interest. The test-pieces were all taken from the centre of the ingot, hammered to one and one-half inches square, and then turned down to a diameter of ½ inch, with two inches between fillets, which were ¾ inch in diameter and threaded:—

No. of Specimen.	Carbon, Per Cent.	Nickel, Per Cent.	Ultimate Strength, Lbs. per square inch.	Reduction of Area, Per Cent.	Elongation, Per Cent.	Length, inches.	Free use.	Hardness in Lath.
14	0.16	3.35	102,900	29.1	15.0	2	Silky	Soft, U.A.
14	0.16	3.35	100,650	48.1	27.0	2	Silky	Soft, A.
19	0.19	2.62	141,100	24.9	11.9	2	Grey	Hard, drawn
13	0.22	2.95	88,830	34.6	20.0	2	Grey	Easy, A.
13	0.22	2.95	84,650	55.4	31.5	2	Grey	Easy, A.
13	0.22	2.65	83,400	58.2	2.1	8	Grey	Easy, drawn
15	0.31	3.40	109,100	24.4	17.0	2	Grey	Easy, A.
15	0.31	3.40	100,300	49.2	26.0	2	Grey	Easy, A.
15	0.31	3.40	94,120	44.4	30.0	8	Silky	Easy, drawn
41	0.51	4.93	17,075	27.10	18.0	2	Crystallized	Hard, A.
24	0.54	3.40	131,200	12.7	10.5	2	Grey	Hard, A.
21	0.54	3.40	134,400	36.7	14.3	2	Grey	Hard, drawn
29	0.96	3.10	101,280	12.9	8.3	8	Grey	Hard, round
34	0.91	3.10	138,000	22.3	9.88	8	Grey	Hard, round

This steel was quiet in the moulds after tapping, set quickly without piping, and the ingots were smooth and clean. They were submitted to the same treatment in the hammer-shop and rod-mill as is given to ordinary steel. Through a mistake in getting numbers changed, the bars drawn through the rolls of the rod-mill received an extra annealing heat. The conditions of the tests were as near alike as possible; the only exception being that the rods were pulled in the testing machine as they came from the ½ inch rolls, in 8 inch lengths, while the other test specimens were 2 inches long and ½ inch diameter.

The specifications of the Baltimore and Ohio R.R. for steel tyres, and the U.S. Navy Bureau of Steam Engineering for crank and propeller shafts, connecting, and piston rods and ordnance, are as follows:—

SPECIFICATIONS OF BALTIMORE AND OHIO RAILROAD.

Grade.	Carbon, per cent.	Tensile strength, pounds per square inch.	Elongation in 4 inches, per cent.
I.	0.50 to 0.60	105,000	18
II.	0.60 to 0.70	115,000	14
III.	0.68 to 0.78	125,000	10

Grade I. is for passenger engine tyres, outside diameter, 60 inches; Grade II., for consolidation, Mogul, &c., outward diameter, 45 to 60 inches; Grade III., for switching engines, car-wheels, and all tyres less than 48 inches in outside diameter. A variation of 10,000 pounds in tensile strength above or below the above figures is permitted.

SPECIFICATIONS OF THE BUREAU OF STEAM ENGINEERING, U.S. NAVY.

	Tensile strength, pounds per square inch.	Elongation in 2 inches, per cent.	Contraction of area, per cent.
Propeller-shafts	85,000	23	—
Crank-shafts	58,000	28	—
Connecting-rods	65,000	25	—
Piston-rods	65,000	25	—
Ordnance	85,000	18	35

It goes without saying that, where other conditions are equal, soft or low carbon steel possesses advantages over hard or high carbon steel, as it is easier to machine, and (what is of greater importance) may be submitted to much rougher treatment, because it is not subject to the dangerous internal strains of hard steel. It is in this respect especially that nickel-steel, having the superior qualities of soft steel, fulfils the requirements

of service sought for in hard steel, and offers to engineers the advantages of a material which will give greater strength with same weight, or equal strength with less weight than any other at their disposal. Comparing the accepted standard of mild steel with nickel-steel having approximately the same carbon contents:—

	Tensile strength, Pounds per square inch.	Elongation, Per cent.	Contraction of area, Per cent.
Ordinary steel...	65,000	23 in 8 in.	48 0
No. 13 nickel-steel (2.05 per cent. nickel)	84,650	31.5 in 2 in.	55 4
No. 14 nickel-steel (3.35 per cent. nickel)	100,650	27.0 in 2 in.	48 1

We have here nickel-steel, containing less than 0.2 per cent. carbon, and 3.35 per cent. of nickel (annealed), that more than meets the specifications of the Navy Department for ordnance, shafting, &c., and Grade I. for steel tyres on the Baltimore and Ohio R.R.

For Grade III., requiring high-grade steel, we make the following comparison with nickel-steel, annealed, containing 0.20 per cent. less carbon than the required carbon in plain steel:—

	Tensile strength, pounds per square inch.	Elongation, Per cent.
B. and O. R.R. steel tyres, Grade III.	125,000	10 in 4 in.
No. 24 nickel-steel ..	134,000	14 in 2 in.

By 2.0 per cent. of nickel (No. 13) the tensile strength of mild steel is raised 30 per cent., and by 3.35 nickel (No. 14) 41 per cent., without any appreciable change of elongation or reduction of area. "The presence of 4.7 per cent. of nickel increases the tensile strength 35 per cent. and the elastic limit 75 per cent., while the elongation and contraction of area is practically the same."

In reviewing the results of these experiments, corroborated by the experience of others, it is found that better results are obtained by using more rather than less than 3 per cent. of nickel. The tensile strength and elastic limit of steel increases with the percentage of nickel, up to the point of extreme hardness in machining, and the percentage of carbon has everything to do in raising or lowering this property of nickel steel, as much as in ordinary steel.

Torsion tests of these specimens were made by the Standard Tool Company, Cleveland, Ohio, as follows:—

No. of specimen.	Carbon, Per cent.	Nickel, Per cent.	Torsion breaking point in pounds per square inch.	Degrees of twist in 3 inches before breaking 360 degrees = 1 full twist.
14....	0.16	3.35	2325	360
19....	0.19	2.62	2150	130
13....	0.22	2.05	2434	240
15....	0.31	3.40	1108	355
41....	0.51	4.93	2200	120
24....	0.54	3.00	1200	60
29....	0.96	3.10	1700	60

The specimens in these torsion tests were 1½ inch square. A number of the specimens were found to be checked and laminated in structure.

In a cold-bending test of a specimen 2½ by 2½ inches (full thickness of wall of forging), 18 inches long, under hydraulic press through 180°, the ends met within ¼ inch; the greatest distance between sides was ½ inch. There was only one slight crack, in one corner on the inside of the bend.

The percentage of nickel in all the Government work here referred to is 3.25 per cent., with carbon at about 0.2 per cent. It is not improbable that familiarity with working and cheapening the cost in manufacture will permit the percentage of nickel to be considerably increased above this figure to good advantage. It has been the practice in this country to charge the nickel into the furnace in the form of nickel oxide enclosed in sheet-iron boxes. In other countries pig or ferro-nickel is used. Some steel plants use metallic nickel, which offers this advantage over the oxide, that less nickel slags off. The best results are obtained in basic open-hearth furnace. Several of the Pittsburgh steelworks use nickel as an alloy for steel, but are not yet prepared to make a special feature of nickel-steel castings outside of Government work. The Bethlehem Iron Company, having enlarged its plant, has special facilities for making nickel-steel in any desired form or size for the general trade, besides taking large Government contracts.

It is obvious from the foregoing data, which briefly summarize the present status of metallurgy of nickel, that the field for the use of nickel is one of magnitude, and that the era of its development has only just commenced.

The results herein given are accompanied with authorities, so that they may be followed more in detail by those desiring to study the subject further and to discuss the statement offered in this paper.

* Riley's experiments.

† Laboratory of Lehigh University.

THE ORIGIN OF PETROLEUM.—"The origin of petroleum is still a mystery," says Mr. G. T. Baker in the *Cosmopolitan*. "It seems really incredible that animal or vegetable oil should so accumulate as to furnish the output of Baku. 100,000 right whales would be required to supply as much oil as Baku exports yearly. It is also very significant that the deposits follow a line of profound terrestrial disturbance—that of the Caucasus. It was to account for these oil fields that Mendeleeff put forward his hypothesis. He supposes, on grounds which are by no means absurd, that there are vast masses of metallic iron within the earth, resembling meteoric iron and containing carbon. The action of acids on such iron produces hydrocarbons which are sometimes identical with those of Baku oil. If one accepts the supposition of the existence of iron in great quantities within the earth, this theory leads to fewer difficulties than that of organic origin; and since such iron has been brought to the surface of the earth at a number of points by eruption, the plausibility of the hypothesis is great."

SUNFLOWERS AS FUEL.—According to *Cassier's Magazine*, utilising waste material by transforming it into gas for power, heat, and light, has for a long time been a pet scheme for inventors. Sawdust and general wood debris have been among the waste products successfully operated upon in special gas-making apparatus, and more recently a new and profitable material to be worked over is understood to have been found in Russia in the large heaps of refuse from sunflower seeds, which are there used in great quantities as cattle food and in the production of oil. The husks or shells from these seeds, it seems, proved themselves an exceedingly rich basis for a gas, and the result of experiments which were made has been that at Berruth, in the centre of the sunflower-growing district, a gas-making plant has been put down to utilise the refuse, the intention being to employ the gas for power purposes in a 40 horse-power gas engine. Though detailed particulars of the scheme are lacking, there seems every reason to believe that it is a rational one, from which good results may be expected.

THE NEW EXPLOSIVE—ROBURITE.—The result of the testing to which roburite has been subjected by the Chemical Examiner, Bengal, and the Superintendent, Ishapur Gunpowder Factory, having proved satisfactory, the Government of India has decided that the importation of this explosive into India should now be permitted.—*The Indian and Eastern Engineer.*

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G. T. PLUNKETT, Lt.-Colonel (late R.E.), Secretary, R.C.S.E.I., Stephen's Green, Dublin.

TIN TICKETING.

A TICKETING for tin ores was held at Tabb's Hotel, Redruth, on Wednesday, with the following result:—

VALUES OF ORES SOLD BY EACH MINE.		Tons cwt.		Per ton.		Value.	
Mines.				£ s. d.		£ s. d.	
Wheal Grenville	19 0	.....	£40 15 0	.....	£774 0 0		
do	18 0	.....	42 12 6	.....	731 0 0		
Carn Brea	16 0	.....	32 12 6	.....	522 0 0		
do	16 0	.....	32 5 0	.....	516 0 0		
Dolgoth	1 10	.....	23 15 0	.....	35 0 0		
do	17 0	.....	39 5 0	.....	667 0 0		
Tincroft	16 0	.....	39 0 0	.....	624 0 0		
do	17 0	.....	33 7 6	.....	567 0 0		
Wheal Bassett	16 0	.....	33 0 0	.....	528 0 0		
South Frances	24 0	.....	40 17 6	.....	981 0 0		
do	11 0	.....	37 5 0	.....	409 0 0		
East Pool	11 0	.....	37 10 0	.....	412 0 0		
do	15 0	.....	34 12 6	.....	519 0 0		
Phoenix United	1 10	.....	16 0 0	.....	24 0 0		
do	11 0	.....	40 2 6	.....	441 0 0		
West Kitty	2 10	.....	32 5 0	.....	80 0 0		
do	13 0	.....	40 5 0	.....	523 0 0		
West Frances	12 0	.....	37 12 6	.....	451 0 0		
Killifreth	12 0	.....	36 2 6	.....	433 0 0		
South Condurrow	7 0	.....	40 15 0	.....	285 0 0		
Wheal Kitty	7 0	.....	40 5 0	.....	281 0 0		
263 10					£9809 0 0		

Average price per ton, £37 4s. 6d.

AVERAGE PRICES PER TON.

Jan. 29	£35 6 6	April 9	£36 7 6
Feb. 12	34 5 6	April 25	36 17 3
Feb. 26	34 3 7	May 7	37 12 3
March 12	34 3 7	May 21	39 0 4
March 26	35 19 2	June 5	37 4 6

DAMPING DUST IN COAL MINES.—At Wigan the important question of damping dust in coal mines was recently brought forward, and a series of experiments made by Mr. Wm. Saint, H.M. Inspector of Mines, with an apparatus specially designed for a South Wales colliery. This consisted of a movable nipple perforated with five holes, and supplied with a regulator and plug tap. In the hub of the fitting a cup is provided which is caused to revolve by the water passing through it, thus breaking up the water and delivering it in the form of a very fine spray. To prevent choking up by particles of dirt, a filter is supplied to the apparatus, formed simply by a sponge which effectually separates any mechanical impurities. Mr. Saint recommended that spraying of mines with an apparatus such as this should be intermittent, and the operation automatically performed. Mr. Hall, Inspector of Mines, expressed the opinion that such a method as had been shown by Mr. Saint would be very useful in mines, but recommended that it should be operated by manual labour, as when sprayers were running in different parts of the pit continually the men became drenched in passing through the mist, and got into the habit of turning off the taps to avoid it.

WEIGHTS OF SHEET METAL.—It will be interesting to those who have anything to do with sheet iron, boiler plate, or similar material to have an easily-remembered rule for finding the weight per square foot of material they are working with. The fact that a square foot of iron plate, $\frac{1}{4}$ inch thick, weighs almost exactly 5 lbs., forms at once a basis for a very simple and easy rule. As a square foot of iron, $\frac{1}{4}$ inch thick, weighs 5 lbs., a square foot of $\frac{1}{2}$ inch iron will weigh 10 lbs., and we can say that the area of any sheet iron (or iron plate) in square feet, multiplied by the thickness in $\frac{1}{4}$ ths and multiplied by 5, will give the weight of the piece. There is a piece of tank iron 5-16 inch thick, 3 feet wide, and 5 feet long, how much does it weigh? The area will be 3 feet by 5 feet, or 15 feet square. Now, how many eighths is 5-16 inch? Since $\frac{1}{4}$ inch equals 2 16ths, and two is contained in five 2 16ths times, we say 5-16 inch equals 2 16ths, or 2 16ths 5 lbs., eqn's 12 16ths lbs. per square foot, and as there are 15 square feet we have 15 feet by 12 16ths equals 187 5 feet. Where the thickness is even eighths of 1 inch, it is much simpler, but even this is not a hard thing to do as shown. If it is desired to use this rule for other than iron, we simply find the difference between the weights of the two metals per cubic inch, and find what a square foot $\frac{1}{4}$ inch thick will weigh, then work as shown above.—*The Engineer and Iron Trades Advertiser.*

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*Moore	June 18	June 19	June 22	July 6

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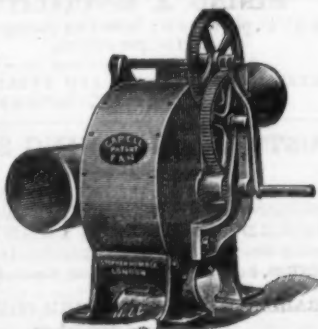
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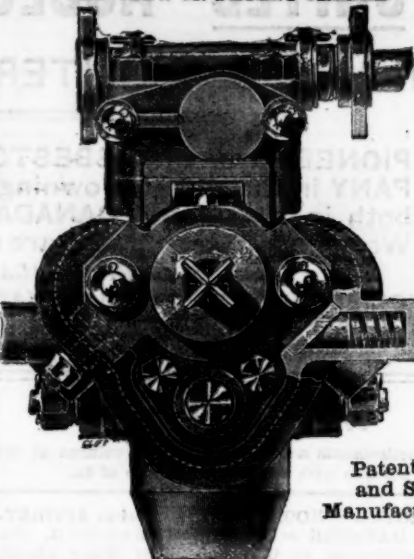
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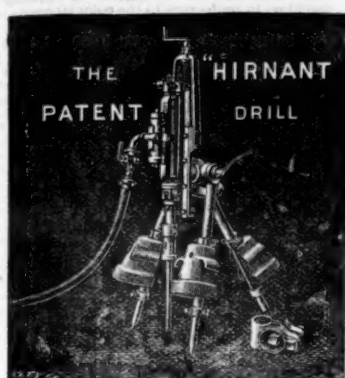
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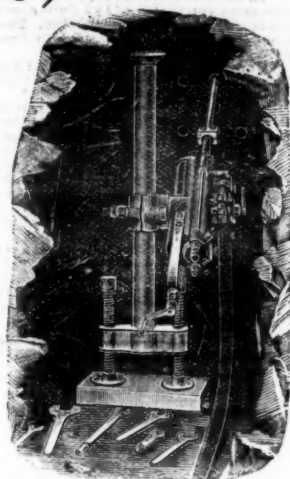
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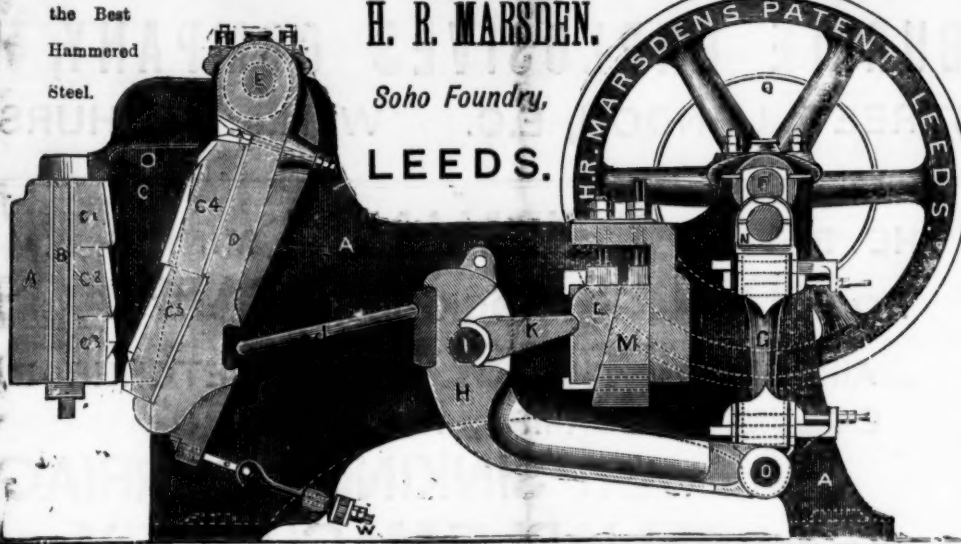
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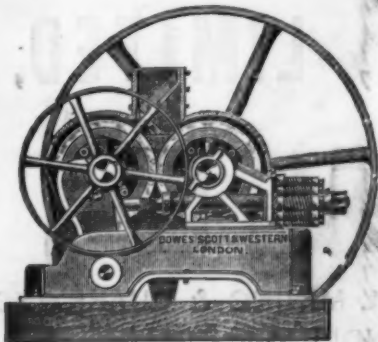
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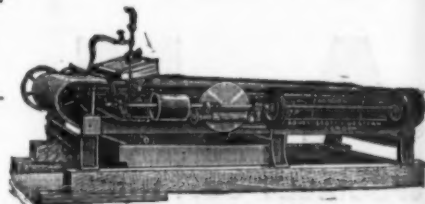
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